

**Amendments to the Specification:**

Please replace the paragraph beginning at page 1, line 4, with the following:

The present application claims priority to USSN 60/421,989, filed October 29, 2002, and USSN 60/\_\_\_\_512,251, ~~TTC Ref. No. 021044-005810~~, filed October 17, 2003, each herein incorporated by reference in their entirety.

Please replace the paragraph beginning at page 4, line 23, with the following:

--Figure 14 shows that Axl RNAi reduces Axl protein expression. Axl 2 = SEQ ID NOS:61 and 62; Axl-2 = SEQ ID NO:63; Axl2 = SEQ ID NO:64; Axl4 = SEQ ID NOS:65 and 66; Axl4.2 = SEQ ID NOS:67 and 68; Axl-4 = SEQ ID NO:69; Axl4 = SEQ ID NO:70; Axl4.2 = SEQ ID NO:71.--

Please replace the paragraph beginning at page 11, line 15, with the following:

--The terms "identical" or percent "identity," in the context of two or more nucleic acids or polypeptide sequences, refer to two or more sequences or subsequences that are the same or have a specified percentage of amino acid residues or nucleotides that are the same (i.e., about 70% identity, preferably 75%, 80%, 85%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or higher identity over a specified region (e.g., ~~SEQ ID NO:1 or 2~~ SEQ ID NO:3 or 4), when compared and aligned for maximum correspondence over a comparison window or designated region) as measured using a BLAST or BLAST 2.0 sequence comparison algorithms with default parameters described below, or by manual alignment and visual inspection (*see, e.g.*, NCBI web site or the like). Such sequences are then said to be "substantially identical." This definition also refers to, or may be applied to, the complement of a test sequence. The definition also includes sequences that have deletions and/or additions, as

well as those that have substitutions. As described below, the preferred algorithms can account for gaps and the like. Preferably, identity exists over a region that is at least about 25 amino acids or nucleotides in length, or more preferably over a region that is 50-100 amino acids or nucleotides in length.--

Please replace the paragraph beginning at page 38, line 8, with the following:

--Common linkers such as peptides, polyethers, and the like can also serve as tags, and include polypeptide sequences, such as poly gly Gly sequences of between about 5 and 200 amino acids (SEQ ID NO:72). Such flexible linkers are known to persons of skill in the art. For example, ~~poly(ethelyne glycol)~~ poly(ethylene glycol) linkers are available from Shearwater Polymers, Inc. Huntsville, Alabama. These linkers optionally have amide linkages, sulfhydryl linkages, or heterofunctional linkages.--

Please replace the informal "SEQUENE LISTING at pages 50-78 with the following:

--SEQUENCE LISTING

Ax1

GH2\_420\_G3F1 (SEQ ID NO:1)

CTCCAGGGGTTTCAGGATAACCTCCACCCTCATCCATGTTGACATAGAGGATTTTCGTCAGGCTCCTGGGCAGGAGGCA  
AGG

GH2\_420\_G3R1 (SEQ ID NO:2)

ATCTATCTAACCCTGTGCTTGGGTTCTGCGGCCTTGCCCTCCTGCCCAGGAGCCTGACGAAATCCTCTATGTCAACA  
TGGATGAGGGTGGAGGTTATCCTGAACCCCTGGAG

>gi|21536465|ref|NM\_021913.2| Homo sapiens AXL receptor tyrosine kinase (AXL), transcript variant 1, mRNA (SEQ ID NO:3)

GAGTGGAGTTCTGGAGGAATGTTTACCAGACACAGAGCCCAGAGGGACAGCGCCCAGAGCCCAGATAGAG  
AGACACGGCCTCACTGGCTCAGCACCAGGGTCCCCTTCCCCCTCCTCAGCTCCCTCCCTGGCCCCCTTTAA  
GAAAGAGCTGATCCTCTCCTCTCTTGAGTTAACCCTGATTGTCCAGGTGGCCCCCTGGCTCTGGCCTGGT  
GGGCGGAGGCAAAGGGGGAGCCAGGGGCGGAGAAAGGGTTGCCCAAGTCTGGGAGTGAGGGAAGGAGGCA  
GGGGTGCTGAGAAGGCGGCTGCTGGGCAGAGCCGGTGGCAAGGGCCTCCCCTGCCGCTGTGCCAGGCAGG  
CAGTGCCAAATCCGGGGAGCCTGGAGCTGGGGGGAGGGCCGGGGACAGCCCGGCCCTGCCCCCTCCCCCG  
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TCCAGGTTTCAGGGAGAGCCCCCGAGGTACATTGGCTTCGGGATGGACAGATCCTGGAGCTCGCGGACAG  
CACCCAGACCCAGGTGCCCTGGGTGAGGATGAACAGGATGACTGGATAGTGGTCAGCCAGCTCAGAATC  
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CCATCAGCTTCGGCTAGGCAGCCTCCATCCTCACACCCCTTATCACATCCGCGTGGCATGCACCAGCAGC  
CAGGGCCCCCTCATCCTGGACCCACTGGCTTCTGTGGAGACGCCGGAGGGAGTGGCCCTGGGCCCCCTG  
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>gi|21536466|ref|NP\_068713.2| AXL receptor tyrosine kinase isoform 1; AXL  
transforming sequence/gene; oncogene AXL [Homo sapiens] (SEQ ID NO:4)  
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>gi|21536467|ref|NM\_001699.3| Homo sapiens AXL receptor tyrosine kinase  
(AXL), transcript variant 2, mRNA (SEQ ID NO:5)  
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CCTACACTGCTGCTGGGGATGGACCCCTGGAGCCTCCCAGTACCCCTGGAGGCCTGGCGCCCAGTGAAGGA  
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TATATCAACGAAAAAAA

>gi|21536468|ref|NP\_001690.2| AXL receptor tyrosine kinase isoform 2; AXL transforming sequence/gene; oncogene AXL [Homo sapiens] (SEQ ID NO:6)  
MAWRCPRMGRVPLAWCLALCGWACMAPRGTAQEEPPFVGNPGNITGARGLTGTLRCQLQVQGEPPPEVHWL  
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KGVTTSTRATITVLPQQPRNLHLVSRQPTELEVAWTPGLSGIYPLTHCTLQAVLSDDGMGIQAGEPDPPE  
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ALMSRCWELNPQDRPSFTELREDLENTL KALPPAQEPDEILYVNMDEGGGYPEPPGAAGGADPPTQPDPK  
DSCSCLTAAEVHPAGRYVLCPSTTPSPAQPADRGSPAAPGQEDGA

Tubulin cofactor D

GH1-13-PCR-G3F1 (SEQ ID NO:7)  
CTTCCGCAGCAGGGTCTGGTTGCTCTCAGGGAGTCTGCAGCCATCGAGGCACCTGAGGACAGTGGCAGCATAGGGCA  
AACAGTCTTCACGTTTTCCATGTTTAAATATTTGTGCCAGGGCCTGCAGCGTCCCATCCATGGTGATGACCCCTGC  
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>gi|8400735|ref|NM\_005993.2| Homo sapiens tubulin-specific chaperone d (TBCD), mRNA (SEQ ID NO:8)  
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CCCTCATGGTATTGATATTTTGACCACAGCTGACTATTTTGCCGTCGGTAACAGATCCAACCTGTTTCCTG  
GTTATAAGTGTGTTTATTGCCGGCTTTCTGAGTACACGCAGCCAATGATAGACCACCTGGTTACCATGA  
AGATCAGCCACTGGGATGGGGTCATCCGAGAGTTGGCTGCGAGGGCGCTGCACAACCTGGCCCAGCAGGC  
ACCCGAGTTTACGCGCCACGCAAGTCTTCCCGAGGCTGCTGTCCATGACACTGAGTCCAGATCTTCACATG  
AGGCATGGGTTCGATTCTCGCCTGCGCAGAAGTTGCTTACGCCTTGTACAACTTGCAGCCCAAGAGAACA  
GGCCCGTCACGGACCATCTGGACGAGCAGGCAGTGCAGGGCCTGAAGCAGATTACCAGCAGCTCTATGA  
TCGTCAGTTATACAGGGGTCTGGGAGGACAGCTCATGAGACAAGCAGTGTGTGTTTTAATAGAAAAGTTG  
TCACTTTCCAAAATGCCCTTTAGAGGTGACACCGTAATTGATGGTTGGCAATGGCTGATAAATGACACTT  
TGAGACATCTCCATCTCATCTCAAGTCACTCCCGCCAGCAGATGAAGGATGCAGCAGTCTCGGCCCTGGC  
TGCTCTATGCAGTGAATATTACATGAAGGAGCCGGGGGAGGCAGATCCCGCAATTCAGGAGGAGCTGATC  
ACGCAGTACCTGGCTGAGCTTCGGAACCCCGAGGAGATGACTCGCTGTGGCTTCTCGTTGGCCTTGGGCG  
CCCTTCCAGGCTTCCTTCTGAAAGGCCGGCTCCAGCAGGTTCTCACAGGTTTAAAGAGCAGTTACCCACAC  
TTCCCCCGAGGACGTAAGTTTGTGAGTCCAGGAGAGACGGCTTGAAGGCCATTGCGAGGATTTGCCAG  
ACTGTTGGTGTGAAAGCAGGAGCCCCAGACGAAGCTGTGTGCGGAGAGAATGTTTCCCAATTTACTGTG  
CGTGCTGGGTGCATGGACGACTACACCACGGACAGCAGAGGGGACGTGGGCACCTGGGTCCGCAAGGC  
CGCCATGACCAGTCTGATGGATCTGACACTTCTGCTGGCTCGGAGCCAGCCTGAGCTGATCGAGGCCCAT  
ACCTGTGAGCGCATCATGTGCTGTGTGGCCAGCAGGCCAGTGAGAAGATTGACCGTTTCCGTGCTCACG  
CCGCCAGCGTGTTTCTGACGCTCCTGCACCTTTCAGACGCCCTCCCATCCCCACGTGCCCCACCGAGGAGA  
ACTGGAAGCTGTTTCCAGGTCCGATGTGGCCTCCGTGAAGTGGAGTGCACCTTCCAGGCCTTCCCA  
CGCATACCCAGCTCCTTGGGCTGCCACCTACCGCTACCACGTCTGCTGGGGCTAGTCGTGTCCCTGG  
GCGGCTTGACGGAGTCGACGATCCGGCACTCCACCCAGAGCCTCTTTGAGTACATGAAGGGCATTACAGAG  
CGACCCGACAGGCCCTGGGCAGCTTCAGCGGGACCTTCTGCAGATCTTTGAGGACAACCTTCTGAATGAG  
AGGGTGTCCGTGCCGTGCTGAAGACGCTGGACCACGTGCTCACCACGGCTGCTTCGACATCTTCACCA  
CGGAGGAGGACCACCCCTTTGCTGTGAAGTTGCTTGCCTCTGTAAGAAAGAAATCAAGAATTCAAAGA  
TATCCAGAAGCTCCTGTCAGGCATCGCAGTGTCTGCGGGATGGTGCAGTTCCCCGGCGACGTGAGGAGG  
CAGGCCCTCCTGCAGCTGTGTCTGCTCCTCTGCCACCGTTTCCCGCTGATCCGGAAGACCACGGCCAGCC  
AGGTGTACGAGACATTGCTCACCTACAGTGACGTCGTGGGCGCGGATGTGCTGGACGAGGTGGTGACTGT  
GCTCAGTGACACTGCGTGGGACGCGGAGCTTGAGTGGTGAGAGAGCAGCGCAACCGTCTGTGTGACCTT  
CTGGGCGTACCCAGGCCCCAGCTGGTGCCCCAGCCTGGTGCCTGCTGAAGCCAGTCTTGAGGCCCATACC  
TCACCCCTGCCTGGTGAGGATGTCTTGTTCCTGAGGGAGGCCGGTGTGGAAAGCCTTGACAGTGGTGCC  
TCCAGCTGTTGAAGGGTAGCGCTGGCCCTTGGAGGCTGGCACTAGCTGACAGCTTTTCTCTCTGCACCT  
GCGCTCTGGTGACTTGGGGTGGACGCCTCTGCCTTCACTTGAACACAAATGTGCTTCTATAAAATCATG  
TACCAAG

>gi|8400736|ref|NP\_005984.2| beta-tubulin cofactor D [Homo sapiens] (SEQ ID NO: 9)

MALSDEPAAGGPEEEAEDETLAGAALAEAFGESAEETRALLRRLREVHGGGAEREVALERFRVIMDKYQEQ  
PHLLDPHLEWMMNLLLDIVQDQTSASLVHLAFKFLYIITKVRGYKTFRLRFPHEVADVEPVLDLVTIQN  
PKDHEAWETRYMLLLWLSVTCLIPDFSRLDGNLLTQPGQARMSIMDRILQIAESYLIVSDKARDAAVL  
VSRFITRPDVKQSKMAEFLDWSLCNLARSSFQTMQGVITMDGTLQALAQIFKHGKREDCLPYAATVLRCL  
DGCRLPESNQTLRLKLVKLQRLGLTFLKPKVAAWRYQRCRSLAANLQLLTQGQSEQKPLILTEDDDE  
DDDVPEGVERVIEQLLVGLKDKDTVVRWSAAKGIGRMAGRLPRALADDVVGSVLDCFSFQETDKAWHGGC  
LALAEELGRRGLLLPSRLVDVVAVILKALTYDEKRGACSVGTNVRDAACYVCCAFARAYEPQELKPFVTAI  
SSALVIAAVFDRDINCRRAASAAFQENVGRQGTFFPHGIDILTADYFAVGNRSNCFLVISVFIAGFPEYT  
QPMIDHLVTMKISHWDGVIRELAARALHNLAQQAPEFSATQVFPRLLSMTLSPDLHMRHGSILACAEVAY  
ALYKLAAQENRPVTDHLDEQAVQGLKQIHQQLYDRQLYRGLGGQLMRQAVCVLIEKLSLSKMPFRGDTVI  
DGWQWLINDTLRHLHLISSHSRQMKDAVSAALACEYIMKEPGEADPAIQEELITQYLAELRNPEEM  
TRCGFSLALGALPGFLLKGRLLQVLTGLRAVTHTSPEDEVSAESRRDGLKAIARICQTVGVKAGAPDEAV  
CGENVSQIYCALLGCMDDYTTDSRGDVGTVWRKAAMTSLMDLTLLLARSQPELIEAHTCERIMCCVAQQA  
SEKIDRFRAHAASVFLTLHLHFDSPPIPHVPHRGELEKLFPRSDVASVNWAPSQAFFRITQLLGLPTRY  
HVLRLGLVSLGGLTESTIRHSTQSLFEYMKQISDPQALGSFSGTLLQIFEDNLLNERVSVPLKLTLDHV  
LTHGCFDIFTTEEDHPFAVKLLALCKEIKNSKDIQKLLSGIAVFCGMVQFPGDVRRQALLQLCLLLCHR

FPLIRKTTASQVYETLLTYSDVVGADVLDEVVTVLSDTAWDAELAVVREQRNRLCDLLGVPRPQLVPQPG  
AC

Transglutaminase 2

GH1-173-PCR-G3F1 (SEQ ID NO:10)

CCAGTGTGCTTGGGTTCTGCGGCACCCTGGATCTCCCCAACTCATTGCGGAAGTACTCGATGAGAAGGTTGCTGTT  
CTGGTCATGGGCCGAGTTGTAGTTGGTCACGACGCGGGTAGGGATGCCAGGCACCTCAGCACTGTGCAGGCCACGG  
CGGCAAGACCCAGCACTGGCCATACTTGACGCGCTGGCAGCCGTGGTTCTTCCAGCGCCGAGGATGTCCACGCTGC  
CGATCCAGGACATGGGGCTGACCCGACAGCCAGCACAGTGGTTAGATGATAAAGCGGCCGCTCGACTAGTCTGAGG  
TCTGATACTCACTGACTGTCGTA

gi|20141877|sp|P21980|TGM2\_HUMAN Protein-glutamine gamma-glutamyltransferase  
(Tissue transglutaminase) (TGase C) (TGC) (TG(C)) (Transglutaminase 2)  
(TGase-H) (SEQ ID NO:11)

MAEELVLERCDLELETNGRDHHTADLCREKLVVRRGQPFWLT LHFEGRNYESVDSLTF SVVTGPAPSQE  
AGTKARFPLRDAVEEGDWTATVVDQDCTLSLQLTPANAPIGLYRLSLEASTGYQGSSFVLGHFILLFN  
AWCPADAVYLDSEERQEQEYVLTQQGFIYQGS AKFIKNI PNWFGQFEDGILDICLILLDVNPKFLKNAGRD  
CSRSSPVYVGRVVS GMVNCNDDQGVLLGRWDNNYGDGVSPMSWIGSVDILRRWKNHGCQRVKYQGCWVF  
AAVACTVLRCLGIPTRVVTNYS AHDQNSNLLIEYFRNEFGEIQGDKSEMIWNFHCWVESWMTRPDLQPG  
YEGWQALDPTPQEKSEGTYYCCGPVPVRAIKEGDLSTKYDAPFVFAEVNADVVDWIQQDDGSVHKSINRSL  
IVGLKISTKSVGRDEREDITHYKYPEGSSEEREAFTRANHLNKLAEKEETGMAMRIRVGQSMNMGSDFD  
VFAHITNNTAEYVCRLLLCARTVSYNGILGPECGTKYLLNLNLEPFSEKSVPLCILEKYRDCLTESNL  
IKVRALLVEPVINSYLLAERDLYLENPEIKIRILGEPKQKRKLVAEVS LQNPLPVALEGCTFTVEGAGLT  
EEQKTVEIPDPVEAGEEVKVRMDLLPLHMLHLKLVVNFESDKLKAVKGFNRNVIIGPA

>gi|4759227|ref|NM\_004613.1| Homo sapiens transglutaminase 2 (C polypeptide,  
protein-glutamine-gamma-glutamyltransferase) (TGM2), mRNA (SEQ ID NO:12)

AACAGGCGTGACGCCAGTTCTAACTTGAAACAAAACAACTTCAAAGTACACCAAAATAGAACCTCCT  
TAAAGCATAAATCTCACGGAGGGTCTCGGCCGCCAGTGGAAGGAGCCACCGCCCCCGCCCGACCATGGC  
CGAGGAGCTGGTCTTAGAGAGGTGTGATCTGGAGCTGGAGACCAATGGCCGAGACCACACAGGCCGAC  
CTGTGCCCGGAGAGAAGCTGGTGGTGCGACGGGCCAGCCCTTCTGGCTGACCCTGCACCTTTGAGGGCCGCA  
ACTACCAGGCCAGTGTAGACAGTCTCACCTTCAGTGTCTGACCGGCCAGCCCTAGCCAGGAGGCCG  
GACCAAGGCCCGTTTTTCCACTAAGAGATGCTGTGGAGGAGGGTGACTGGACAGCCACCGTGGTGACCAG  
CAAGACTGCACCCTCTCGCTGCAGCTCACCACCCCGCCAACGCCCCCATCGGCCTGTATCGCCTCAGCC  
TGGAGGCCTCCACTGGCTACCAGGGATCCAGCTTTGTGCTGGGCCACTTCATTTTGCTCTTCAACGCCTG  
GTGCCAGCGGATGCTGTGTACCTGGACTCGGAAGAGGAGCGGCAGGAGTATGTCCTCACCAGCAGGGC  
TTTATCTACCAGGGCTCGGCCAAGTTCATCAAGAACATACCTTGGAATTTTGGGCAGTTTCAAGATGGGA  
TCCTAGACATCTGCCTGATCCTTCTAGATGTCAACCCCAAGTTCTTGAAGAACGCCGGCCGTGACTGCTC  
CCGGCGCAGCAGCCCCGTCTACGTGGGCCGGGTGGGTAGTGGCATGGTCAACTGCAACGATGACCAGGGT  
GTGCTGCTGGGACGCTGGGACAACAACACTACGGGGACGGCGTCAGCCCCATGTCCTGGATCGGCAGCGTGG  
ACATCCTGCGGCGCTGGAAGAACCACGGCTGCCAGCGCGTCAAGTATGGCCAGTGTGGGTCTTCGCCCGC  
CGTGGCCTGCACAGTGTGAGGTGCCTAGGCATCCCTACCCGCGTCTGTGACCAACTACAACCTCGGCCCAT  
GACCAGAACAGCAACCTTCTCATCGAGTACTTCCGCAATGAGTTTGGGGAGATCCAGGGTGACAAGAGCG  
AGATGATCTGGAACCTTCCACTGCTGGGTGGAGTCTGTGGATGACCAGGCCGACCTGCAGCCGGGGTACGA  
GGGCTGGCAGGCCCTGGACCCAACGCCCCAGGAGAAGAGCGAAGGAACGTACTGCTGTGGCCAGTTCCA  
GTTTCGTGCCATCAAGGAGGGCGACCTGAGCACCAAGTACGATGCGCCCTTTGTCTTTGCGGAGGTCAATG  
CCGACGTGGTAGACTGGATCCAGCAGGACGATGGGTCTGTGCACAAATCCATCAACCGTTCCTGATCGT  
TGGGCTGAAGATCAGCACTAAGAGCGTGGGCCGAGACGAGCGGGAGGATATCACCCACACCTACAAATAC  
CCAGAGGGTCTCTCAGAGGAGAGGGAGGCCTTCAAGGGCGAACCACCTGAACAAACTGGCCGAGAAGG  
AGGAGACAGGGATGGCCATGCGGATCCGTGTGGGCCAGAGCATGAACATGGGCAGTGACTTTGACGTCTT

TGCCACATCACCAACAACACCGCTGAGGAGTACGTCTGCCGCTCCTGCTCTGTGCCCGCACCGTCAGC  
TACAATGGGATCTTGGGGCCCGAGTGTGGCACCAAGTACCTGCTCAACCTAACCTGGAGCCTTTCTCTG  
AGAAGAGCGTTCTCTTTGCATCCTCTATGAGAAATACCGTGAAGTACCTTACGGAGTCCAACCTCATCAA  
GGTGGCGGGCCCTCCTCGTGGAGCCAGTTATCAACAGCTACCTGCTGGCTGAGAGGGACCTCTACCTGGAG  
AATCCAGAAATCAAGATCCGGATCCTTGGGGAGCCCAAGCAGAAACGCAAGCTGGTGGCTGAGGTGTCCC  
TGCAGAACCCGCTCCCTGTGGCCCTGGAAGGCTGCACCTTCACTGTGGAGGGGGCCGGCCTGACTGAGGA  
GCAGAAGACGGTGGAGATCCAGACCCCGTGGAGGCAGGGGAGGAAGTTAAGGTGAGAATGGACCTCGTG  
CCGCTCCACATGGGCCTCCACAAGCTGGTGGTGAAGTTCGAGAGCGACAAGCTGAAGGCTGTGAAGGGCT  
TCCGGAATGTCATCATTGGCCCCGCTAAGGGACCCCTGCTCCCAGCCTGCTGAGAGCCCCACCTTGAT  
CCCAATCCTTATCCCAAGCTAGTGAGCAAAATATGCCCTTATTGGGGCCAGACCCAGGGCAGGGTGG  
GCAGCCTATGGGGGCTCTCGGAAATGGAATGTGCCCTGGCCATCTCAGCCTCCTGAGCCTGTGGGTCC  
CCACTCACCCCTTTGCTGTGAGGAATGCTCTGTGCCAGAAACAGTGGGAGCCCTGACCTGTGCTGACTG  
GGGCTGGGGTGAGAGAGGAAAGACCTACATTCCCTCTCCTGCCAGATGCCCTTTGGAAAGCCATTGACC  
ACCCACCATATTGTTTGATCTACTTCATAGCTCCTTGGAGCAGGCAAAAAGGGACAGCATGCCCTTGGC  
TGGATCAGGAATCCAGCTCCCTAGACTGCATCCCGTACCTCTTCCCATGACTGCACCCAGCTCCAGGGC  
CCTTGGGACACCCAGAGCTGGGTGGGACAGTGATAGGCCCAAGTCCCCTCCACATCCCAGCAGCCCAA  
GCTTAATAGCCCTCCCCCTCAACCTCACCATTGTGAAGCACCTACTATGTGCTGGGTGCCTCCACACTT  
GCTGGGGCTCACGGGGCCCTCAACCCATTTAATCACCATGGGAACTGTTGTGGGCGCTGCTTCCAGAT  
AAGGAGACTGAGGCTTAGAGAGAGGAGGCGCCCCCTCCACACCAGTGGCCTCGTGGTTATAAGCAAGGC  
TGGGTAATGTGAAGGCCCAAGAGCAGAGTCTGGGCTCTGACTCTGAGTCCACTGCTCCATTTATAACCC  
CAGCCTGACCTGAGACTGTGCGAGAGGCTGTCTGGGGCCTTTATCAAAAAAGACTCAGCCAAGACAAGG  
AGGTAGAGAGGGGACTGGGGGACTGGGAGTCAGAGCCCTGGCTGGGTTCAGGTCCCACGTCTGGCCAGCG  
ACTGCCTTCTCCTCTCTGGGCCTTTGTTTCCTTGTGGTTCAGAGGAGTGATTGAACCTGCTCATCTCAA  
GGATCCTCTCCACTCCATGTTTGAATACACAATTCC

>gi|4759228|ref|NP\_004604.1| transglutaminase 2 (C polypeptide, protein-  
glutamine-gamma-glutamyltransferase) [Homo sapiens] (SEQ ID NO:13)  
MAEELVLERCDLELETNDRDHTADLCREKLVVRRGQFWLTLHFEGRNYSQSVDSLTFVVTGPAPSQE  
AGTKARFPLRDAVEEGDWTATVVDQDQDCTLSLQLTTPANAPIGLYRLSLEASTGYQGSSFVLGHFILLFN  
AWCPADAVYLDSEERQEYVLTQQGFIYQGSKFINKIPWNFGQFQDGLDILCLILLDVNPKFLKNAGRD  
CSRSSPVYVGRVSGMVNNDQGVLLGRWDNNGDGVSPMSWIGSVLDILRRWKNHGCQRVKYQGCWVF  
AAVACTVLRCLGIPTRVVTNYSNHDQNSNLLIEYFRNEFGEIQDKSEMIWNFHCWVESWMTRPDLQPG  
YEGWQALDPTPQEKSEGTYYCCGPVPVRAIKEGDLSTKYDAPFVFAEVNADVVDWIQDDGSVHKSINRSL  
IVGLKISTKSVGRDEREDITHYKYPEGSSSEEREAFTANHLNKLAEKEETGMAMRIRVQSMNMGSDFD  
VFAHITNNATAEYVCRLLLCARTVSYNGILGPECCKYLLNLTLPEFSEKSVPLCILEKYRDCLTESNL  
IKVRALLVEPVINSYLLAERDLYLENPEIKIRILGEPKQKRLVAEVSLLQNPLPVALEGCTFTVEGAGLT  
EEQKTVEIPDPVEAGEEVKVRMDLVPLHMLHLKLVVNFESDKLKAVKGFNRNVIIGPA

>gi|13097680|gb|BC003551.1|BC003551 Homo sapiens, Similar to transglutaminase  
2 (C polypeptide, protein-glutamine-gamma-glutamyltransferase), clone  
MGC:1193 IMAGE:3544757, mRNA, complete cds (SEQ ID NO:14)  
CTCCGCCTCGGCAGTGCCAGCCGCGAGTGGTGCACCTTGGAGGGTCTCGCCGCCAGTGGAAGGAGCCACC  
GCCCCCGCCCCGACCATGGCCGAGGAGCTGGTCTTAGAGAGGTGTGATCTGGAGCTGGAGACCAATGGCCG  
AGACCACCACACGGCCGACCTGTGCCGGGAGAAGCTGGTGGTGCAGCGGGCCAGCCCTTCTGGCTGACC  
CTGCACTTTGAGGGCCGCAACTACGAGGCCAGTGTAGACAGTCTCACCTTCAGTGTCTGACCGGCCAG  
CCCCTAGCCAGGAGGCCGGGACCAAGGCCCGTTTTCCACTAAGAGATGCTGTGGAGGAGGGTGAAGTGGAC  
AGCCACCGTGGTGGACAGCAAGACTGCACCTCTCGCTGCAGCTCACCACCCCGGCCAACGCCCCCATC  
GGCCTGTATCGCCTCAGCCTGGAGGCCTCCACTGGCTACCAGGGATCCAGCTTTGTGCTGGGCCACTTCA  
TTTTGCTCTTCAACGCCTGGTGGCCAGCGGATGCTGTGTACCTGGACTCGGAAGAGGAGCGGCAGGAGTA  
TGTCTTCAACAGCAGGGCTTTATCTACCAGGGCTCGGCCAAGTTCATCAAGAACATACCTTGAATTTT  
GGGAGTTTGAAGATGGGATCCTAGACATCTGCCTGATCCTTCTAGATGTCAACCCCAAGTTCCTGAAGA  
ACGCCGGCCGTGACTGCTCCCGCCGACGAGCCCCGTCTACGTGGGCCGGGTGGTGAAGTGGCATGGTCAA

CTGCAACGATGACCAGGGTGTGCTGCTGGGACGCTGGGACAACAACCTACGGGGACGGCGTCAGCCCCATG  
TCCTGGATCGGCAGCGTGGACATCCTGCGGCGCTGGAAGAACCACGGCTGCCAGCGCGTCAAGTATGGCC  
AGTGCTGGGTCTTCGCCGCCGTGGCCTGCACAGTGTGAGGTGCCTGGGCATCCCTACCCGCGTCGTGAC  
CAACTACAACCTCGGCCCATGACCAGAACAGCAACCTTCTCATCGAGTACTTCCGCAATGAGTTTGGGGAG  
ATCCAGGGTGACAAGAGCGAGATGATCTGGAACCTTCCACTGCTGGGTGGAGTCGTGGATGACCAGGCCGG  
ACCTGCAGCCGGGTACGAGGGCTGGCAGGCCCTGGACCCAACGCCCCAGGAGAAGAGCGAAGGGACGTA  
CTGCTGTGGCCCAGTTCCAGTTCGTGCCATCAAGGAGGGCGACCTGAGCACCAGTACGATGCGCCCTTT  
GTCTTTGCGGAGGTCAATGCCGACGTGGTAGACTGGATCCAGCAGGACGATGGGTCTGTGCACAAATCCA  
TCAACCGTTCCCTGATCGTTGGGCTGAAGATCAGCACTAAGAGCGTGGGCCGAGACGAGCGGGAGGATAT  
CACCCACACCTACAAATACCCAGAGGGGTCTCAGAGGAGAGGGAGGCCTTACAAAGGGCGAACCACCTG  
AACAACTGGCCGAGAAGGAGGAGACAGGGATGGCCATGCGGATCCGTGTGGGCCAGAGCATGAACATGG  
GCAGTGACTTTGACGTCTTTGCCACATCACCAACAACACCGCTGAGGAGTACGTCTGCCGCCTCCTGCT  
CTGTGCCCGCACCGTCAGCTACAATGGGATCTTGGGGCCCGAGTGTGGCACCAGTACCTGCTCAACCTC  
AACCTGGAGCCTTTCTCTGGTAAAGCCCTGTGTTCTGGAGCATTGTGTGACCGCCAACCTGACAACATGC  
TAGGTAGTGACCTAAAAA

>gi|13097681|gb|AAH03551.1|AAH03551 Similar to transglutaminase 2 (C  
polypeptide, protein-glutamine-gamma-glutamyltransferase) [Homo sapiens] (SEQ  
ID NO:15)

MAEELVLERCDLELETNGRDHHTADLCREKLVVRRGQPFWLTLLHFEGRNYEASVDSLTFVSVTGPAPSQE  
AGTKARFPLRDAVEEGDWTATVVDQDCTLSLQLTTPANAPIGLYRLSLEASTGYQGSSFVLGHFILLFN  
AWCPADAVYLDSEERQEYVLTQQGFIYQGSAKFIKNIWNFGQFEDGILDICLILLDVNPKFLKNAGRD  
CSRRSPVYVGRVSGMVNCDNDQGVLLGRWDNNYGDGVSMSWIGSVDILRRWKNHGCQRVKYQGCWVF  
AAVACTVLRCLGIPTRVVTNYSNHDQNSNLLIEYFRNEFGEIQDKSEMIWNFHCWVESWMTRPDLQPG  
YEGWQALDPTPQEKSEGTYYCCGPVPVRAIKEGDLSTKYDAPFVFAEVNADVVDWIQQDDGSVHKSINRSL  
IVGLKISTKSVGRDEREDITHYKYPEGSSSEEREAFTANHLNKLAEKEETGMAMRIRVGQSMNMGSDFD  
VFAHITNNTAEYVCRLLLCARTVSYNGILGPECGTKYLLNLNLEPFSGKALCSWSIC

>gi|339577|gb|M98478.1|HUMTGH1A Human transglutaminase mRNA, complete cds  
(SEQ ID NO:16)

CAGGCGTGACGCCAGTTCTAAATCTTGAACAGAACAAAACCTTCAAAGTACACCAAAATAGAACCTCCTT  
AAAGCATAAACTCTACGGAGGGTCTCGCCGCCAGTGAAGGAGCCACCGCCCCGCCCCGACCATGGCCGA  
GGAGCTGGTCTTAGAGAGGTGTGATCTGGAGCTGGAGCTTCAAGTACATGGCCGAGACACCACACGGCCGCACTG  
TGCCGGGAGAAGCTGGTGGTGCGACGGGGCAGCCCTTCTGGCTGACCTTGCACTTTGAGGGCCGCAACT  
ACGAGGCCAGTGTAGACAGTCTCACCTTCAGTGTCTGACCGGCCAGCCCTAGCCAGGAGGCCGGGAC  
CAAGGCCCGTTTTTCCACTAAGAGATGCTGTGGAGGAGGGTGAAGTGGACAGCCACCGTGGTGGACAGCAA  
GACTGCACCTCTCGCTGCAGCTCACCACCCCGGCCAACGCCCCCATCGGCCTGTATCGCCTCAGCCTGG  
AGGCCTCCACTGGCTACCAGGGATCCAGCTTTGTGCTGGGCCACTTCATTTTGCTCTTCAACGCCTGGTG  
CCCAGCGGATGCTGTGTACCTGGACTCGGAAGAGGAGCGGCAGGAGTATGTCCTACCCAGCAGGGCTTT  
ATCTACCAGGGCTCGGCCAAGTTCATCAAGAACATACCTTGAATTTTGGGCAGTTTGAAGATGGGATCC  
TAGACATCTGCCTGATCCTTCTAGATGTCAACCCCAAGTTCCTGAAGAACGCCGCGCTGACTGCTCCCG  
CCGCAGCAGCCCCGTCTACGTGGGCCGGGTGTGGAGTGGCATGGTCAACTGCAACGATGACCAGGGTGTG  
CTGCTGGGACGCTGGGACAACAACCTACGGGGACGGCGTCAGCCCCATGTCCTGGATCGGCAGCGTGGACA  
TCCTGCGGCGCTGGAAGAACCACGGCTGCCAGCGCGTCAAGTATGGCCAGTGTGGGTCTTCGCCGCCGT  
GGCCTGCACAGTGTGAGGTGCCTGGGCATCCCTACCCGCGTCGTGACCAACTACAACCTCGGCCCATGAC  
CAGAACAGCAACCTTCTCATCGAGTACTTCCGCAATGAGTTTGGGGAGATCCAGGGTGACAAGAGCGAGA  
TGATCTGGAACCTTCCACTGCTGGGTGGAGTCGTGGATGACCAGGCCGGACCTGCAGCCGGGTACGAGGG  
CTGGCAGGCCCTGGACCCAACGCCCCAGGAGAAGAGCGAAGGGACGTAAGTGTGTGGCCAGTTCCAGTT  
CGTGCCATCAAGGAGGGCGACCTGAGCACCAGTACGATGCGCCCTTTGTCTTTGCGGAGGTCAATGCCG  
ACGTGGTAGACTGGATCCAGCAGGACGATGGGTCTGTGCACAAATCCATCAACCGTTCCCTGATCGTTGG  
GCTGAAGATCAGCACTAAGAGCGTGGGCCGAGACGAGCGGGAGGATATCACCCACACCTACAAATACCCA  
GAGGGGTCTCAGAGGAGAGGGAGGCCTTACAAAGGGCGAACCACCTGAACAACTGGCCGAGAAGGAGG

AGACAGGGATGGCCATGCGGATCCGTGTGGGCCAGAGCATGAACATGGGCAGTGACTTTGACGTCTTTGC  
CCACATCACCAACAACACCGCTGAGGAGTACGTCTGCCGCCCTCCTGCTCTGTGCCCCGACCGTCAGCTAC  
AATGGGATCTTGGGGCCCCGAGTGTGGCACCAAGTACCTGCTCAACCTCAACCTGGAGCCTTTCTCTGGTA  
AAGCCCTGTGTTCTGGAGCATTTGTTGACCGCCAACCTGACAACATGCTAGGTAGTGACCTAACCACCTTA  
GCATGTGTGATTTACCCACAGACACTTACATGGCGCTGACTCTGGGGCAGGCCCTGTCCTAAGCACTT  
TATAAATATCAACCCACTTA

>gi|339578|gb|AAA36739.1| transglutaminase (SEQ ID NO:17)

MAEELVLERCDLELETNGRDHHTADLCREKLVRRGQPFWLT LHFEGRNYEASVDSLTF SVVTGPAPSQE  
AGTKARFPLRD AVEEGDWTATVVDQQDCTLSLQLTTPANAPIGLYRLSLEASTGYQGSSFVLGHFILLFN  
AWCPADAVYLDSEERQEYVLTQQGFIYQGSAKFIKNI PWNFGQFEDGILDICLILLDVNPKFLKNAGRD  
CSRSSPVYVGRVWSGMVNCDNDQGVLLGRWDNNYGDGVS PMSWIGSV DILRRWKNHGCQRVKYQGCWVF  
AAVACTVLRCLGIPTRVVTNYSNHDQNSNLLIEYFRNEFGEIQGDKSEMIWNFHCWVESWMTRPDLQPG  
YEGWQALDPTPQEKSEGTYYCCGPVPVRAIKEGDLSTKYDAPFVFAEVNADVVDWIQQDDGSVHKSINRSL  
IVGLKISTKSVGRDEREDITHYKYPEGSSSEEREAFT RANHLNKLAEKEETGMAMRI RVGQSMNMGSDFD  
VFAHITNNTAEYVCRLLLCARTVSYNGILGPECGTKYLLNLNLEPFS GKALCSWSIC

Cytosine deaminase

GH1-27-PCR-G3F1 (SEQ ID NO:18)

CCAGCGGTGGCTCCAGTGTGCTGGTCTGCGGACGTGTGCCATGCGGAGCTGAATGCCATCATGAACAAAAATTCGAC  
CGATGTGAAAGGCTGTAGTATGTATGTTGCCTTGTTCCCTTGTAATGAATGCGCTAAGCTCATCATCCAGGCAGGTA  
TAAAAGAAGTGATTTTCTGTTTTGATAAATACCATGATAGTGACGAGGCAACTGCTGCGAGGCTCCTGTTTAATAT  
GGCCGGGTGACATTCGGAAATTCATACCGAAGTGCAGCAAGATTGTCATTGACTTTGATTCAATTAACAGCAGAC  
CGAGTCAAAAGCTTCAGTGAGTTACATCTCATTCAATCTCCAGAAGATTGGGATTATCGTCTTCTAAGAGGTTGCTA  
ATGCCTTTCATCTTGAAGTTACACATAACTTCTTACTAGCCAGTATGGCAAAGTAGGCATCTTAAGAATATAAAGC  
CTCCAATCTTCCTTACTGTCTCTCTTGTGCATGGAATCTACATGTGTTTGAAC TATTGCTTTAGGGATTTAAAATA  
GGGGAGCCTGTGGTGGCCTGGTGCACAGGGGCTAGAACGAGAGTGCCTCCCCTTCTTGTGTCTGGCTGGCTGGGAT  
GCTGTGGCTCTTCAGAGGAGCATCAGCCTGTCTGTCTGCTGCGATCCGGCAG

>gi|23503055|sp|P32321|DCTD\_HUMAN Deoxycytidylate deaminase (dCMP deaminase)  
(SEQ ID NO:19)

MSEVSCKKRDDYLEWPEYFMAVAFLSAQRSKDPNSQVGACIVNSENKIVGIGYNGMPNGCSDDVLPWRRRT  
AENKLDTKYPYVCHAE LNAIMNKNSTDVKGCSMYVALFPCNECAKLIIQAGIKEVIFMSDKYHDSDEATA  
ARLLFN MAGVTRKFI PKCSKIVIDFDSINSRPSQKLQ

>gi|4503276|ref|NM\_001921.1| Homo sapiens dCMP deaminase (DCTD), mRNA (SEQ ID:  
NO:20)

ATGAGTGAAGTTTCCTGCAAGAAACGGGACGACTATTTGGAATGGCCAGAGTATTTTATGGCTGTGGCCT  
TCTTATCAGCACAGAGAAGCAAAGATCCAAATCCCAGGTCGGCGCCTGCATCGTGAATTCAGAAAACAA  
GATTGTGCGGATTGGGTACAATGGGATGCCAAATGGGTGCAGTGATGACGTGTGCCTTGGAGAAGGACA  
GCAGAGAATAAGCTGGACACCAAATACCCGTACGTGTGCCATGCGGAGCTGAATGCCATCATGAACAAAA  
ATTCGACCGATGTGAAAGGCTGTAGTATGTATGTCGCCTTGTTCCCTTGTAATGAATGCGCTAAGCTCAT  
CATCCAGGCAGGTATAAAAGAAGTGATTTTCACGTCTGATAAATACCATGATAGTGACGAGGCAACTGCT  
GCGAGGCTCCTGTTTAAATATGGCCGGGTGACATTCGGAAATTCATACCGAAGTGCAGCAAGATTGTCA  
TTGACTTTGATTCAATTAACAGCAGACCGAGTCAAAGCTTCAGTGAGTTACATCTCATTCAATCTCCAG  
AAGATTGGGATTATCGTCTTCTAAGAGGTTGCTAATGCCTTTCATCTTGAAGTTACACATAACTTCTTAC  
TAGCCAGTATGGCAAAGTAGGCATCTAAAGAATATAAAGCCTCAAATCTTCCTTACTGTCTCTCTTGTG  
ACATGGAATCTACATGTGTTTGAAC TATTGCTTTAGGATTTAAAATAGGGGAGCCTGTGGTGGCCTGGTG  
CACAGGGCTAGAACGAGAGTGCCTCCCCTTCTTGTGTCTGGCTGGCTGGGATGCTGGTGGCTCTTCAGA  
GGAGCATCAGCTGTCTGTCTGCTGCGATCCGGCAGCCTCTCTTCACTGCTACATGTGCTGGAAGGAC  
AAATAAAATAATTGTGGTTGTGTTCTTAATGGGGACGAGCAGACACACTGATCTGAACATCTGGCCCAAGT

GAAGCATGGCATATAGTGCCCTTGGAAGAAAATTAGGCCTCAAATGACAGTAGCATTGAAGTGTTTGCTG  
CAGAGTTGAGGGAAACCCCCAGCCACCCTCCCGGAATCCGAGATAGGGTGGCACATCTGTCTGACAGAC  
GAGGAGTGTAACTGAACCAGGAATATTTCTCCATTCTGCTCTCCCACTGCACACAGGGTGGTGGCACA  
TTATCCCTCTGGGGGGTGGGGACGCCTGTTGTTTTGGCTCAATTTGGGTTTGTGGTCACATGGAGCTCT  
TCCATTTTCGTTTAGCTGAATAATGAGTTGTTCTAGAGGAGACAGCCTGTCTCTCCTTGTGCCCCAAA  
GCCCATGCCCTGCCGTGGTGGCAGCTGGGGCTGTGGATGGGAGGGGTCCCCAACATGGATGTGTTGCCCC  
TCCTCCGCATGCCAACGCAGTTCATGTACAAGGCCCTCTGCAACTGGAGAGAAAATTAATTCCTATCCC  
GTGAGTGGATTGTGAGAAATTCACCCACGTGGAGACAGCTTACTGCAGCACTGTTGGTGTTCGGAGCTC  
TTCTGTGCCCTGGCTCCATGCTTTCACCTACACAAGCATCACCTTCCTAATCACCGCGGGGCGGGGAGCG  
TGTGGCTGTGCCCCCTTCTCTTTAATCTCATTTAATTTTTTATTAAACATGCTCAGTACCTGTGTTGAGAAA  
AGGCTTTCTTTATCCTAAAGATTATTACCTTTTTTAAAGTGCTCTTATATTTTCATGAGTTTTTATTTTGT  
CTCTGAGATTTTGTATTCCACATTCTAGGGTATTCTGTAATTTGGCTCCTTACCAATATTATTAAATCT  
TATTTAAATCT

>gi|4503277|ref|NP\_001912.1| dCMP deaminase [Homo sapiens] (SEQ ID NO:21)  
MSEVSKKRDDYLEWPEYFMAVAFLSAQRSKDPNSQVGACIVNSENKIVGIGYNGMPNGCSDVLPWRRRT  
AENKLDTKYPYVCHAELENAIMNKNSTDVKGCSMYVALFPCNECAKLIIQAGIKEVIFTSDKYHDSDEATA  
ARLLFNMAGVTFRKFI PKCSKIVIDFDSINSRPSQKLQ

Peptidase M41 (Paraplegin)

GH1-40-PCR-G3F1 (SEQ ID NO:22)  
GTGGAAATGCCCTGTTACTCTGTGGGGATGACGGCAGTGGGCCTGGCCATCCTGTGGTATGTTTTCCGTCTGGCCGG  
GATGACTGGAAGGGAAGGTGGATTCACTGCTTTTAAATCAGCTTAAAATGGCTCGTTTACCATTGTGGATTGGAAGA  
TGGGGAAAGGGAGTCAGCTTCAAAGACGTGGCAGGAATGCACGAAGCCAACTGGAAGTCCGCGAGTTTGTGGATTA  
TCTGAAGAGCCCAGAACGCTTCCCTCCAGCTTGGCGCCAGGTCCCAAAGGGCGCACTGCTGCTCGGCCCCCGGCTG  
TGGGAAGACGCTTCTGGCCAAGGCGGTGGCCACGGAGGCTCAGGTGCCCTTCCCTGGCGATGCCGGCCCCAGAGTTCTG  
GGAGGTCAATTGGAGGCCTCGGCGCTCCCGTGTGCGGAGCCTCTTTAAGGAAGCCCGAGCCCGGGCCCCCTGCATCGT  
CTACATCGATAGATCGACGCGGTGGGCAAGAAGCGCTCCACCACCATGTCCGGCTTCTCCAACACNGAGGAGGAGCA  
GACGCTCAACCAGCTTCTGGTNAGAAATGGATGGAATGGGTACCACAGACCATGTCTATCGTCTGCGGTCCACGAA  
ACCGAGCTGACATTTTGGACGGTGCTCTTATAGGCCAGGCCGAAGTGGGACCGGGACGTCTTCTTTGATCTC

>gi|4507172|ref|NM\_003119.1| Homo sapiens spastic paraplegia 7, paraplegin  
(pure and complicated autosomal recessive) (SPG7), mRNA (SEQ ID NO:23)  
TTTCAGGCCAACATGGCCGTGCTGCTGCTGCTGCTCCGTGCCCTCCGCCGGGGTCCAGGCCCGGGTCTCTC  
GGCCGCTGTGGGGCCCAGGCCCGGCCTGGAGTCCAGGGTTCCCGCCAGGCCCGGGAGGGGGCGGCCGTA  
CATGGCCAGCAGGCCTCCGGGGACCTCGCCGAGGCTGGAGGCCGAGCTCTGCAGAGCTTACAATTGAGA  
CTGCTAACCCTACCTTTGAAGGGATCAACGGATTGTTGTTGAAACAACATTTAGTTTCAAGATCCAGTCA  
GACTCTGGCAACTTTTAGGTGGTACTTTCTATTTTAAACACCTCAAGGTTGAAGCAGAAGAATAAGGAGAA  
GGATAAGTCGAAGGGGAAGGCGCCTGAAGAGGACGAAGAGGAGAGGAGACGCCGTGAGCGGGACGACCAG  
ATGTACCGAGAGCGGCTGCGCACCTTGCTGGTCACTCGCGTTGTCTATGAGCCTCCTGAATGCTCTCAGCA  
CCAGCGGAGGCAGCATTTCTGGAACGACTTTGTCCACGAGATGCTGGCCAAGGGCGAGGTGCAGCGCGT  
CCAGGTGGTGCCTGAGAGCGACGTGGTGAAGTCTACCTGCACCTGGAGCCGTGGTGTGTTGGGCGGCCT  
CGGCTAGCCTTGATGTACCGAATGCAGGTTGCAAATATTGACAAGTTTGAAGAGAAGCTTCGAGCAGCTG  
AAGATGAGCTGAATATCGAGGCCAAGGACAGGATCCCAGTTTCTTACAAGCGAACAGGATTCTTTGGA  
TGCCCTGTACTCTGTGGGGATGACGGCAGTGGGCCTGGCCATCCTGTGGTATGTTTTCCGTCTGGCCGGG  
ATGACTGGAAGGGAAGGTGGATTCACTGCTTTTAAATCAGCTTAAAATGGCTCGTTTACCATTGTGGATG  
GGAAGATGGGGAAAGGAGTCAGCTTCAAAGACGTGGCAGGAATGCACGAAGCCAACTGGAAGTCCGCGA  
GTTTGTGGATTATCTGAAGAGCCCAGAACGCTTCCCTCCAGCTTGGCGCCAAGGTCCCAAAGGGCGCACTG  
CTGCTCGGCCCCCGGCTGTGGGAAGACGCTGCTGGCCAAGGCGGTGGCCACGGAGGCTCAGGTGCCCT  
TCCTGGCGATGGCCGGCCAGAGTTCTGTGGAGGTCAATTGGAGGCCTCGGCGCTGCCCGTGTGCGGAGCCT  
CTTTAAGGAAGCCCGAGCCCGGGCCCCCTGCATCGTCTACATCGATGAGATCGACGCGGTGGGCAAGAAG

CGCTCCACCACCATGTCCGGCTTCTCCAACACGGAGGAGGAGCAGACGCTCAACCAGCTTCTGGTAGAAA  
TGGATGGAATGGGTACCACAGACCATGTCATCGTCTGGCGTCCACGAACCGAGCTGACATTTTGGACGG  
TGCTCTGATGAGGCCAGGCCGACTGGACCGGCACGTCTTCATTGATCTCCCCACGCTGCAGGAGAGGCGG  
GAGATTTTTGAGCAGCACCTGAAGAGCCTGAAGCTGACCCAGTCCAGCACCTTTTACTCCCAGCGTCTGG  
CAGAGCTGACACCAGGATTCACTGGGGCTGACATCGCCAACATCTGCAATGAGGCTGCGCTGCACGCGGC  
GCGGGAGGGACACACTTCCGTGCACACTCTCAACTTCGAGTACGCCGTGGAGCGCGTCTCGCAGGGACT  
GCCAAAAGAGCAAGATCCTGTCCAAGGAAGAAGCAAGTGGTTGCGTTTCATGAGTCGGGCCACGCCT  
TGGTGGGCTGGATGCTGGAGCACACGGAGGCCGTGATGAAGGTCTCCATAACCCCTCGGACAAACGCCGC  
CCTGGGCTTTGCTCAGATGCTCCCCAGAGACCAGCACCTCTTACCAAGGAGCAGCTGTTTGAGCGGATG  
TGCATGGCCTTGGGAGGACGGGCCTCGGAAGCACTGTCCTTCAACGAGGTCACTTCTGGGGCACAGGACG  
ACCTGAGGAAGGTCACCCGCATCGCCTACTCCATGGTGAAGCAGTTTGGGATGGCACCTGGCATCGGGCC  
CATCTCCTTCCCTGAGGCGCAGGAGGGCCTCATGGGCATCGGGCGGCGCCCTTTCAGCCAAGGCCTGCAG  
CAGATGATGGACCATGAAGCAAGACTGCTGGTGGCCAAGGCCTACAGACACACCGAGAAGGTGCTGCAGG  
ACAACCTGGACAAGTTGCAGGCGCTGGCAAACGCCCTTCTGGAAAAGGAAGTGATAAACTATGAGGACAT  
TGAGGCTCTCATTGGCCCGCCGCCCATGGGCCGAAGAAAATGATCGCACCCGAGAGGTGGATCGACGCC  
CAGAGGGAGAAACAGGACTTGGGCGAGGAGGAGACCGAAGAGACCCAGCAGCCTCCACTTGGAGGCGAAG  
AGCCGACTTGGCCCAAGTAGTTGGGAGGTGTTGGCTGCACGTGCGGGTGGTCCGGGAAGTGAGGGCTCAC  
TCAGCCACCTGAGTTGCTTTTTCAGCTGAGGTTTGCACCTTCTCTCGCGGCCCTCAGTAGTCCCTGCACA  
GTGACTTCTGAGATCTGTTGATTGATGACCCTTTTCATGATTTTAAGTTTCTCTGCAGAAACTACTGACG  
GAGTCTGTGTTTGTGAGTCGTTTCCCTATGGGGAAGGTTATCAGTGCTTCCCGAGTGAGCATGGAACA  
CTTCGAGTTCCCAGGGTTATAGACAGTCGTTCCCAGTGTTGGCTGAGGCCACCCAGAGGCAGCAGAGCATT  
CAGACTCCAAACAGACCCCTGTTTCATGCCGACGCTTGCACGACCGCCCCAGTTCTGTGGCTCCCTCGGA  
ATGCTAAGGGGATCGGACATGAAAGGACCCTGTGAGCCGATTGTCTATCTCCAGCGGCCCTGTCTATCCA  
GCTCACTCATCAATGGGGCCAGTCAGGCCAGGCACTGGGCTCCGGAGGACTCACCCTGCCCCCTGCTG  
CCATGTGGACTGGTGCAAGTTGAGGACTTCTTGCTGGTCTAGTCACGCATGCAGTGTTGGGGATGCCTTG  
GTTTTTACTGCTCTGAGAATTGTTGAGATACTTTACTAATAAACTGTGTAGTTGGAAAAA

>gi|4507173|ref|NP\_003110.1| paraplegin [Homo sapiens] (SEQ ID NO:24)  
MAVLLLLLRALRRPGPGPRPLWGPAPWSPGFARPGRGRPYMASRPPGDLAEAGGRALQSLQLRLLTP  
TFEGINGLLLKQHLVQNPVRLWQLLGGTFYFNTSRLKQKNKEKDKSKGKAPEEDEEERRRRERDDQMYRE  
RLRLLVIAVMSLLNALSTSGGSISWNDFVHEMLAKGEVQRVQVVPESDVVEVYLHPGAVVFGPRRLAL  
MYRMQVANIDKFEEKLRAAEDELNIEAKDRIPVSYKRTGFFGNALYSVGMTAVGLAILWYVFRLAGMTGR  
EGGFSAFNQLKMARFTIVDGKMGKGVSKFDVAGMHAEKLEVFVDYLSKPERFLQLGAKVPGKALLGP  
PGCGKTLAKAVATEAQVPFLAMAGPEFVEVIGGLGAARVRSLFKEARARAPCIVYIDEIDAVGKKRSTT  
MSGFSNTEEEQTLNQLLVEMDGMGTTDHVIVLASTNRADILDGALMRPGRLDHRVFDLPTLQERREIFE  
QHLKSLKLTQSSTFYSQRLAELTPGFSGADIANICNEAALHAAREGHTSVHTLNFEYAVERVLAGTAKKS  
KILSKEEQKVAFHESGHALVGWMLEHTEAVMKVSITPRTNAALGFAQMLPRDQHLFTKEQLFERMCMAL  
GGRASEALSFNEVTSGAQDDLKRVTRIAYSMVKQFGMAPGIGPISFPEAQEGLMGIGRRPFSQGLQQMMD  
HEARLLVAKAYRHTKVLQDNLQALANALLEKEVINYEDIEALIGPPPHGPKMIAPQRWIDAQREK  
QDLGEEETEETQPPPLGGEEPTWPK

CD13 Aminopeptidase

GH1-72-PCR-G3F1 (SEQ ID NO:25)  
AGGCCAGGCCTAGGGCGGGGTTGGCATGAGCGGGCAGCGCGCTGGGAGGTGCTCAGGCAGCCTGGGTGCATCAGGAAC  
TAGACTGGCTCACAGGCAGAGAGAACGTGGGCTGGAGACTTTGTCTTGGAGGGAGGACACTGGTGCCTCGGGCTCC  
AGGAATGGAGGCCCTGCACCAGCCGCTGGGATGGACACATGTGGGCACCTTGCATGGGGGCCGGGTGACTTCAAGGG  
CTGGGACTATTTGCTGTTTTCTGTGAACCACTGGAGCACCACCTCCTTGTCTCCTTACCCACTTATGTTGCTTT  
CGTCTTCTCCAGGGGCTTGCTCCAGGGCCCGGGTGCCTTAGCCGAAGCCTGTTTCTCCTCGTTTCT

>gi|113743|sp|P15144|AMPN\_HUMAN Aminopeptidase N (Microsomal aminopeptidase) (GP150) (Myeloid plasma membrane glycoprotein CD13) (SEQ ID NO:26)  
MAKGFYISKSLGILGILLGVAAVCTIIALSVVYSQEKKNANSSPVASTTPSASATTNPASATTLQDQSKA  
WNRRLPNTLKPDSYQVTLRPYLTPNDRGLYVFKGSSTVRFTCKEATDVIIHKKLNYTLQSGHRVVL  
GVGGSQPPDIDKTELVEPTEYLVLVHLKGSVKDSQYEMDSEFEGELADDLAGFYRSEYMEGNVRKVVATT  
QMQAADARKSFPCFDEPAMKAEFNITLIHPKDLTALSNNMLPKGPSTPLPEDPNWNVTEFHTTPKMSTYLL  
AFIVSEFDYVEKQASNGVLIRIWARPSAIAAGHGDIYALNVTGPILNFFAGHYDTPYPLPKSDQIGLPDFN  
AGAMENWGLVTYRENSLLFDPLSSSSSNKERVVTVIAHELAHQWFGNLVTIEWWNLWLNNEGFASYVEYL  
GADYAEPTWNLKDLMLVNDVYRVMVDALASSHPLSTPASEINTPAQISELFDASYSKASVLRMLSSF  
LSEDVFKQGLASYLHTFAYQNTIYLNLDLHQAENVNRSIQLPTTERDIMNRWTLQMGFPVITVDTSTGT  
LSQEHFLLDPSNVTRPSEFNIVVWIVPITSIRDGRQQQDYWLMDVRAQNDLFSTSGNEWVLLNLNVTGY  
RVNYDEENWRKIQTQLQRDHSAPVINRAQIINDAFNLASAHKVPVTLALNNTLFLIEERQYMPWEAALS  
SLSYFKLMFDRSEVYGPMMKNYLKKQVTPFLIFHRNNTNNWREIPENLMDQYSEVNAISTACSNVPECEE  
MVSGLFKQWMENPNNNPIHPNLRSTVYCNAIAQGGEEDWFAWEQFRNATLVNEADKLRAALACSKELWI  
LNRYLSYTLNPDILRKQDATSTIISITNNVIGQLVWDFVQSNWKKPFNDYGGGSFSSNLIQAVTRRFS  
TEYELQQLEQFKDNEETGFGSGTRALEQALEKTKANIKWVKENKEVVLQWFTENSK

>gi|4502094|ref|NM\_001150.1| Homo sapiens alanyl (membrane) aminopeptidase (aminopeptidase N, aminopeptidase M, microsomal aminopeptidase, CD13, p150) (ANPEP), mRNA (SEQ ID NO:27)

TAATTTTTGCCCAGTCTGCCTGTTGTGGGGCTCCTCCCCTTTGGGGATATAAGCCCGGCTGGGGCTGCT  
CCGTTCTCTGCCTGGCCTGAGGCTCCCTGAGCCGCTCCCCACCATCACCATGGCCAAGGGCTTCTATAT  
TTCCAAGTCCCTGGGCATCCTGGGGATCCTCCTGGGCGTGGCAGCCGTGTGCACAATCATCGCACTGTCA  
GTGGTGTACTCCCAGGAGAAGAACAAGAACGCCAACAGCTCCCCCGTGGCCTCCACCACCCCGTCCGCCT  
CAGCCACCACCAACCCCGCTCGGCCACCACCTTGGACCAAGTAAAGCGTGGAATCGTTACCGCTCCC  
CAACACGCTGAAACCCGATTCTACCAGGTGACGCTGAGACCGTACCTCACCCCAATGACAGGGGCTG  
TACGTTTTTAAGGGCTCCAGCACCGTCCGTTTTACCTGCAAGGAGGCCACTGACGTCATCATCATCCACA  
GCAAGAAGCTCAACTACACCCTCAGCCAGGGGCACAGGGTGGTCCTGCGTGGTGTGGGAGGCTCCCAGCC  
CCCCGACATTGACAAGACTGAGCTGGTGGAGCCCACCGAGTACCTGGTGGTGCACCTCAAGGGCTCCCTG  
GTGAAGGACAGCCAGTATGAGATGGACAGCGAGTTCGAGGGGGAGTTGGCAGATGACCTGGCGGGCTTCT  
ACCGCAGCGAGTACATGGAGGGCAATGTGAGAAAGGTGGTGGCCACTACACAGATGCAGGCTGCAGATGC  
CCGGAAGTCCCTCCCATGCTTCGATGAGCCGGCCATGAAGGCCGAGTTCAACATCACGCTTATCCACCCC  
AAGGACTCTGACAGCCCTGTCACACATGCTTCCCAAGGTCCCAGCACCACCCACTTCCAGAAGACCCCACT  
GGAATGTCTAGTGTCCACACCGCCCAAGTGTCCACGTACTTGCTGGCCTTCATTGTGACGTGAGTT  
CGACTACGTGGAGAAGCAGGCATCCAATGGTGTCTTGATCCGGATCTGGGCCCCGGCCAGTGCCATTGCG  
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CACCTACCCACTCCCAAAATCAGACCAGATTGGCCTGCCAGACTTCAACGCCGGCGCCATGGAGAAGT  
GGGACTGGTGACCTACCGGGAGAACTCCCTGCTGTTGACCCCCCTGTCTCCTCCAGCAGCAACAAGGAG  
CGGGTGGTCACTGTGATTGCTCATGAGCTGGCCCCACAGTGGTTCGGGAACCTGGTGACCATAGAGTGGT  
GGAATGACCTGTGGCTGAACGAGGGCTTCGCTCCTACGTGGAGTACCTGGGTGCTGACTATGCGGAGCC  
CACCTGGAACCTGAAAGACCTCATGGTGTGTAATGATGTGTACCGCGTGATGGCAGTGGATGCACTGGCC  
TCCTCCACCCGCTGTCCACACCGCCTCGGAGATCAACACGCCGGCCAGATCAGTGAGCTGTTTGACG  
CCATCTCCTACAGCAAGGGCGCCTCAGTCCTCAGGATGCTCTCCAGCTTCTGTCCGAGGACGTATTCAA  
GCAGGGCCTGGCGTCTACCTCCACACCTTTGCCTACCAGAACACCATCTACCTGAACCTGTGGGACCAC  
CTGCAGGAGGCTGTGAACAACCGGTCCATCCAACCTCCCCACCACCGTGCGGGACATCATGAACCGCTGGA  
CCCTGCAGATGGGCTTCCCGGTATCACGGTGGATACCAGCACGGGGACCCTTTCCAGGAGCACTTCT  
CCTTGACCCCGATTCCAATGTTACCGCCCCCTCAGAATTCAACTACGTGTGGATTGTGCCCATCACATCC  
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CATCAGGCAATGAGTGGTCTGCTGAACCTCAATGTGACGGGCTATTACCGGTGAACTACGACGAAGA  
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ATCATTAAATGACGCCTTCAACCTGGCCAGTGCCCATAAAGTCCCTGTCACTCTGGCGCTGAACAACACCC  
TCTTCTGATTGAAGAGAGACAGTACATGCCCTGGGAGGCCCGCCTGAGCAGCCTGAGCTACTTCAAGCT

CATGTTTGACCGCTCCGAGGTCTATGGCCCCATGAAGAACTACCTGAAGAAGCAGGTACACCCCCTCTTC  
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TTAATGCCATCAGCACCGCCTGCTCCAACGGAGTTCCAGAGTGTGAGGAGATGGTCTCTGGCCTTTTCAA  
GCAGTGGATGGAGAACCCCAATAATAACCCGATCCACCCCAACCTGCGGTCCACCGTCTACTGCAACGCT  
ATCGCCCAGGGCGGGGAGGAGGAGTGGGACTTCGCCTGGGAGCAGTTCCGAAATGCCACACTGGTCAATG  
AGGCTGACAAGCTCCGGGCAGCCCTGGCCTGCAGCAAAGAGTTGTGGATCCTGAACAGGTACCTGAGCTA  
CACCTGAACCCGGACTTAATCCGGAAGCAGGACGCCACCTCTACCATCATCAGCATTACCAACAACGTC  
ATTGGGCAAGGTCTGGTCTGGGACTTTGTCCAGAGCAACTGGAAGAAGCTTTTTAACGATTATGGTGGTG  
GCTCGTTCTCCTTCTCCAACCTCATCCAGGCAGTGACACGACGATTCTCCACCGAGTATGAGCTGCAGCA  
GCTGGAGCAGTTCAAGAAGGACAACGAGGAAACAGGCTTCGGCTCAGGCACCCGGGCCCCTGGAGCAAGCC  
CTGGAGAAGACGAAAGCCAACATCAAGTGGGTGAAGGAGAACAAGGAGGTGGTGTCTCCAGTGGTTTACAG  
AAAACAGCAAATAGTCCCCAGCCCTTGAAGTACCCCGGCCCGGATGCAAGGTGCCACATGTGTCCATCC  
CAGCGGCTGGTGCAGGGCCTCCATTCTGGAGCCCGAGGCACCAAGTGTCTCCCTCAAGGACAAAGTCT  
CCAGCCCACGTTCTCTCTGCCTGTGAGCCAGTCTAGTTCTGTATGACCCAGGCTGCCTGAGCACCTCCCA  
GCCCCTGCCCTCATGCCAACCCCGCCCTAGGCCTGGCATGGCACCTGTGCGCCAGTGCCTGGGGCTGA  
TCTCAGGGAAGCCAGCTCCAGGGCCAGATGAGCAGAAGCTCTCGATGGACAATGAACGGCCTTGCTGGG  
GGCGCCCTGTACCTCTTTTACCTTTCCCTAAAGACCCTAAATCTGAGGAATCAACAGGGCAGCAGATC  
TGTATATTTTTTCTAAGAGAAAATGTAAATAAAGGATTTCTAGATGAAAAAAAAAAAAAAAAAAAA

>gi|4502095|ref|NP\_001141.1| membrane alanine aminopeptidase precursor;  
microsomal aminopeptidase; Alanyl (membrane) aminopeptidase (aminopeptidase  
N, aminopeptidase M, [Homo sapiens] (SEQ ID NO:28)

MAKGFYISKSLGILGILLGVAAVCTIIIALSVVYSQEKKNANSSPVASTTPSASATTNPASATTLDDQSKA  
WNRRLPNTLKPDSYQVTLRPYLTPNDRGLYVFKGSSTVRFCTKEATDVIIHSHKLNLYTLSSQHRVVL  
GVGGSQPPDIDKTELVEPTEYLVVHLKGSVLKDSQYEMDSEFEGELADDLAGFYRSEYMEGNVRKVATT  
QMQAADARKSFPCFDEPAMKAEFNITLIHPKDLTALSNMLPKGPSTPLPEDPNWNVTEFHTTPKMSTYLL  
AFIVSEFDYVEKQASNGVLIRIWARPSAIAAGHGDIYALNVTGPILNFFAGHYDTPYPLPKSDQIGLPDFN  
AGAMENWGLVTYRENSLLFDPLSSSSSNKERVVTVIAHELAHQWFGNLVTIEWWNLWLNEGFAASYVEYL  
GADYAEPTWNLKDLMLVNDVYRVMALASSHPLSTPASEINTPAQISELFDIAISYSGASVLRMLSSF  
LSEDFVKQGLASYLHTFAYQNTIYLNLDHLEAVNNRSIQLPPTVRDIMNRWTLQMGFPVITVDTSTGT  
LSQEHFLDPDSNVTRPSEFNYYVWIVPITSIRDGRQQDYWLIDVRAQNDLFSTSGNEWVLLNLNVTGYY  
RVNYDEENWRKIQTQLQRDHSAPVINRAQIINDAFNLASAHKVPVTLALNNTLFLIEERQYMPWEAALS  
SLSYFKLMFDRSEVYGPKNYLKKQVTPLFIFHRNNTNNWREIPENLMDQYSEVNAISTACSNVPECEE  
MVSGLFKQWMENPNNNRPIHPNLRSTVYCNAIAGGEEEDFAWEQFRNATLVNEADKLRAALACSKELWI  
LNRYLSYTLNPDILRKQDATSTIISITNNVIGQLVWDFVQSNWKKLFNDYGGGSFSSFNLIQAVTRRFS  
TEYELQQLEQFKKDNEETGFGSGTRALEQALEKTKANIKWVKENKEVVLQWFTENSK

PRK-1

GH1-54-PCR-G3F1 (SEQ ID NO:29)

TCCTTTCCCGCCACGCACTACAGCACCTGTTGCAAGCCCGCGCCGCTCACAGGGACCCTGAGGTACGAGTGGTGGG  
CTGCAGAGACCTCCCAGAGACCATCCCGTGAACCTACCCCTCAATGGGGGACCTGGGACCCAGACAGCGCCC  
CCCTTCCTGAGCCGCCCAGCCCGGGGCGCAGTAACCCAGCACAGTGGTTAGATAGATAAAGCGGCCGCTCGACTAG  
TCTGAGGTCTGATACTCACTGACGTGATACGT

>gi|4506072|ref|NM\_002741.1| Homo sapiens protein kinase C-like 1 (PRKCL1),  
mRNA (SEQ ID NO:30)

TGAGTAAATCGATACATACGCGCGCTCCTCTGGCCGCCCTCCCTCCGACGATCGGGGACCCTGGCG  
GGCGGCAGGAGGACATGGCCAGCGACGCCGTGCAGAGTGAGCCTCGCAGCTGGTCCCTGCTAGAGCAGCT  
GGGCTGGCCGGGCGAGACCTGGCGGCCCGGGGTACAGCAGCAGCTGGAGCTGGAGCGGGAGCGGCTG  
CGGCGGGAAATCCGCAAGGAGCTGAAGCTGAAGGAGGTGCTGAGAACCTGCGGCGGGCCACCACTGACC

TGGGCCCGCAGCCTGGGCCCGCTAGAGCTGCTGCTGCGGGGCTCCTCGCGCCGCTCGACCTGCTGCACCA  
GCAGCTGCAGGAGCTGCACGCCCACGTGGTGTCTCCCGACCCGGCGGCCACCCACGATGGCCCCCAGTCC  
CCTGGTGCGGGTGGCCCCACCTGCTCGGGCCACCAACCTGAGCCGCGTGGCGGGCCTGGAGAAGCAGTTGG  
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GCCCAGGAGAAATTGACAGAATCCAACCAGAAGCTGGGGCTGCTGCGGGAGGCTCTGGAGCGGAGACTTG  
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CTTCAGCACCCGCTGGCCGGGCCCCTTCCCGCCACGCACCTACAGCACCTGTGCAAGCCCGCGCCGCTC  
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CCTCAATGGGGGGACCTGGGACCCAGACAGCCGCCCCCTTCCCTGAGCCGCCCAGCCCGGGGCTTTA  
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ACCAGAGCTTCACTCTGGAGCTGGAAAGGGCAGGGAACTGGAGTTGGCTGTGTTCTGGCGGGACACGCG  
GGGCTGTGTGCCCTCAAATTCCTGAAGTTGGAGGATTTCTTGGACAATGAGAGGCATGAGGTGCAGCTG  
GACATGGAACCCAGGGCTGCCGTGGTGGCTGAGGTCACTTCCGCAACCTGTCAATTGAGAGGATTCCTC  
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CCCCATCCAGGAATCCACTGCTCCCGAGCTGCCTTCGGAGACCCAGGAGACCCAGGCCCGCCCTGTGC  
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TGGGCTATGGGGACCGGACCAGCACATTTCTGTGGGACCCCGAGTTCTTGGCCCCCTGAGGTGCTGACGGA  
CACGTCGTACACGCGAGCTGTGGACTGGTGGGGACTGGGTGTGCTGCTCTACGAGATGCTGGTTGGCGAG  
TCCCCATTTCCAGGGGATGATGAGGAGGAGGTCTTCGACAGCATCGTCAACGACGAGGTTGCTACCCCC  
GCTTCTGTGCGGCCAAGCCATCGGCATCATGAGAAGGCTGCTTCGGAGGAACCCAGAGCGGAGGCTGGG  
ATCTAGCGAGAGAGATGCGAAGATGTGAAGAAACAGCCCTTCTTCAGGACTCTGGGCTGGGAAGCCCTG  
TTGGCCCGGCGCTGCCACCGCCCTTTGTGCCCCAGCTGTCCGGCCGACCGACGTCAGCAACTTCGACG  
AGGAGTTCACCGGGGAGGCCCCACACTGAGCCCGCCCCGCGACGCGCGGCCCTCACAGCCGCGGAGCA  
GGCAGCCTTCTTGGACTTCGACTTCGTGGCCGGGGGCTGCTAGCCCCCTCCCCTGCCCCCTGCCCCCTGCC  
CTGCCCGAGAGCTCTTAGTTTTTAAAAAGGCCTTTGGGATTTGCCGAAAAAAAAAAAAA

>gi|4506073|ref|NP\_002732.1| protein kinase C-like 1; serine-threonine kinase  
N [Homo sapiens] (SEQ ID NO:31)

MASDAVQSEPRSWSLLEQLGLAGADLAAPGVQQQLELERERLRREIRKELKLKEGAENLRRATDDLGRSL  
GPVELLLRGSSRRLLDLHQQLQELHAHVLPDPAATHDGPQSPGAGGPTCSATNLSRVAGLEKQLAIELK  
VKQGAENMIQTYNSGSKDRKLLLTAAQQLQDSKTKIDIIRMQLRRALQADQLENQAAPDDTQGS PDLGA  
VELRIEELRHHRFVEHAVAEGAKNVLRLLSAAKAPDRKAVSEAQEKLTESNQKLGLLREALERRLGELPA  
DHPKGRLLREELAAASSAAFSTRLAGPFPATHYSTLCKPAPLTGTLEVRVVGCRDLPETIPWNPTPSMGG  
PGTPDSRPFLSRPARGLYSRGSLSGRSSLKAEANTSEVSTVLKLDNTVVGQTSWKPCGPNWDQSFT  
LELERARELELAVFWRDQRLCALFKLEDFLDNERHEVQLDMEPQGCLVAEVTFRNPVIERIPRLRRQ  
KKIFSKQQGKAFQARQMNIDVATWVRLRLRIPNATGTGTFS PGASPGSEARTTGDISVEKLNLTGDS  
SSPQKSSRDPPSSPSSLPISPIQESTAPELPSETQETPGPALCSPLRKSPLTLEDFKFLAVLGRGHFGKVL  
LSEFRPSGELFAIKALKKGDIVARDEVESLMCEKRILAAVTSAGHPFLVNLFGCFQTPHEVCFVMEYSAG

GDLMLHIHSDVFSEPRAlFYsACVVLGLQLFHEHKIVYRDLKLDNLLDTEGYVKIADFLCKEGMGYGD  
RTSTFCGTPEFLAPEVLTDTSYTRAVDWWGLGVLLYEMLVGESPFPGDDEEEVFDSIVNDEVRYPRFLSA  
EAIGIMRLLRRNPERRLGSSERDAEDVKKQPFRTLGWEALLARLPPPFVPTLSGRTDVSNFDEEFTG  
EAPTLSPPRDARPLTAAEQAAFLDFDFVAGGC

Zip kinase

GH1-68-PCR-G3F1 (SEQ ID NO:32)

GCTGGGTTTCATTTTCGAGTATTCGCGGGCCTGCTCTCAGCTAGGTTTAGCCCGTTTCGTGACCCTCCACGTGCACTCG  
TGGTCACTGTGGCACCGTGAGGGTTGGGACCCACCGAGGCGCAAGGCGGCCGAATGCGCCTGTTTCAGCCCGGAGAGG  
TTTGGCGGTAGTTGCCGGACATTCCGGCGGGGTGCTGCCTGTTGCTGCCATTATGCCCAGGAGGAGGTTCGTGGGACGG  
GGAGGTGGGATGGACGGCGGACAGGCAGTCCCCACGCTGCTTGGTGGCGCCGGCTTGGTGGGGTCTTCCACTGTGT  
GCCCTTCTCGCCGAGGGCGGTCCCCCGCGTGTGGGGTGCCCTGCTGCGGACTCCTCCGCACGCGAGAAACCAGCAC  
AGTGGTTAGAGTAGATAAAGCGGGCGAGTCGACTAGATCTGAGGTCTGATACTCACTGACTGTTTCGTAA

>gi|4557510|ref|NM\_001348.1| Homo sapiens death-associated protein kinase 3  
(DAPK3), mRNA (SEQ ID NO:33)

GTTGCCATTAGGGGACTCCTGAGGTCCTATCTCCAGGCTGCGGTGACTGCACTTTCCCTGGAGTGGAAGC  
TGCTGGAAGGCGGACCGGCCGCCATGTCCACGTTTCAGGCAGGAGGACGTGGAGGACCATTATGAGATGGG  
GGAGGAGCTGGGCAGCGGCCAGTTTGCGATCGTGCGGAAGTGCCGGCAGAAGGGCACGGGCAAGGAGTAC  
GCAGCCAAGTTCATCAAGAAGCGCCGCTGTCTCCAGCCGGCGTGGGGTGAGCCGGGAGGAGATCGAGC  
GGGAGGTGAACATCCTGCGGGAGATCCGGCACCCCAACATCATCACCTGCACGACATCTTCGAGAACAA  
GACGGACGTGGTCCTCATCTGGAGCTGGTCTCTGGCGGGGAGCTCTTTGACTTCTGGCGGAGAAAGAG  
TCGCTGACGGAGGACGAGGCCACCCAGTTCTCAAGCAGATCCTGGACGGCGTTCACTACCTGCACTCTA  
AGCGCATCGCACACTTTGACCTGAAGCCGGAACATCATGCTGCTGGACAAGAAGCTGCCCAACCCACG  
AATCAAGCTCATCGACTTCGGCATCGCGCACAAGATCGAGGCGGGGAACGAGTTCAAGAACATCTTCGGC  
ACCCCGGAGTTTGTGGCCCCAGAGATTGTGAATATGAGCCGCTGGGCCTGGAGGCGGACATGTGGAGCA  
TCGGTGTCTACCTATATCCTCCTGAGCGGTGCATCCCCGTTTCTGGGCGAGACCAAGCAGGAGACGCT  
CACCAACATCTCAGCCGTGAACCTACGACTTCGACGAGGAGTACTTCAGCAACACCAGCGAGCTGGCCAAG  
GACTTCATTTCGCCGGCTGCTCGTCAAAGATCCCAAGCGGAGAATGACCATTGCCAGAGCCTGGAACATT  
CCTGGATTAAAGGCGATCCGGCGGCGGAACGTGCGTGGTGAGGACAGCGGCCGCAAGCCCGAGCGGGCG  
CCTGAAGACCACGCGTCTGAAGGAGTACACCATCAAGTCGCACTCCAGCTTGCCGCCCAACAACAGCTAC  
GCCGACTTCGAGCGCTTCTCCAAGGTGCTGGAGGAGGCGGCGCCGAGGAGGGCCTGCGCGAGCTGC  
AGCGCAGCGGGCGGCTCTGCCACGAGGACGTGGAGGCGCTGGCCGCCATCTACGAGGAGAAGGAGGCCTG  
GTACCGCGAGGAGAGCGACAGCCTGGGCCAGGACCTGCGGAGGCTACGGCAGGAGCTGCTCAAGACCGAG  
GCGCTCAAGCGGCAGGCGCAGGAGGAGGCCAAGGGCGCGCTGCTGGGGACCAGCGGCCTCAAGCGCCGCT  
TCAGCCGCCTGGAGAACCCTACGAGGCGCTGGCCAAGCAAGTAGCCTCCGAGATGCGCTTCGTGCAGGA  
CCTCGTGCGCGCCCTGGAGCAGGAGAAGCTGCAGGGCGTGAGTGCGGGCTGCGCTAGGCGCAGTGGGGT  
GGGCCAGGCCCCAGGACAGCCGGAGCTCGGCCTGCGGTGGGGGCGCTTCTGTGGACGCTGCGCCTCCCA  
TCGCCCCGGGTGCTGTCTTGGCCAGCGCCACCAGGCTGGAGGCGGAGTGGGAGGAGCTGGAGCCAGGCC  
CGTAAGTTCGACAGCAGGGGTGGGTGTGGGACGGGGCTGCTTCTCTACACAGCCTCTACGCTGGCCTTCA  
CCTTACCCCTGCATCGTTCGGTGACCCTGGGACCCTCCAGGCAGCGTGCCCTGTGGCACCGTGAGGGTTG  
GGACCCACCGAGGCGCAGAGGCGGCCGAATGCAGCCCTGGTTTCAGGCCCCGAGGAGGGTTTTCGGGTAG  
TTGCACGGACAATTTCGGCGGGGTGCTGCCTGTTGCTGCCATTAGCCAGGAGGAGGTTCGTGGGACGGGGA  
GGGTGGGATGGACGGCGGACAGGCAGTCCCCACGCTGCTGGGTGGCGCCGGGCTTGGTGGGGTCTTCCAC  
TGTGTGCCCTTCTCGCCGAGGCGGTCCCCCGGTGTGGGGTGCCCTGCTGCGGACTCCTCCGCGAGCCC  
CATCGTCGCGCCTGTGGACGCCTAGGCAAGAGCGGCCCTCTGCAGCCAAGAGAAATAAAATACTGGCTTC  
CAGAT

>gi|4557511|ref|NP\_001339.1| death-associated protein kinase 3 [Homo sapiens]  
(SEQ ID NO:34)

MSTFRQEDVEDHYEMGEELGSGQFAIVRKRQKGTGKEYAAKFIKKRRLSSSRRGVSREEIEREVNILRE

IRHPNIIITLHDI FENKTDVVLILELVSGGELFDFLAEKESL TEDEATQFLKQILDGVHYLHSKRIAHFDL  
KPENIMLLDKNVPNPRIKLIDFGIAHKIEAGNEFKNIFGTPEFVAPEIVNYEPLGLEADMWSIGVITYIL  
LSGASPFLETGKETLTNISAVNYDFDEEYFSNTSELAKDFIRRLLVKDPKRRMTIAQSLEHSWIKAIRR  
RNVRGEDSGRKPERRRLKTTRLKEYTIKSHSSLPPNNSYADFERFSKVLEEAEEGLRELQRSRLCH  
EDVEALAAIYEEKEAWYREESDSLQDLRRLRQELLKTEALKRQAQEEAKGALLGTSGLKRRFSRLNRY  
EALAKQVASEMRVQDLVRALEQEKLGVECGLR

>gi|2911155|dbj|AB007144.1| Homo sapiens mRNA for ZIP-kinase, complete cds  
(SEQ ID NO:35)

GTTGCCATTAGGGGACTCCTGAGGTCTATCTCCAGGCTGCGGTGACTGCACTTTCCCTGGAGTGGAAGC  
TGCTGGAAGGCGGACCGGCCGCCATGTCCACGTTTCAGGCAGGAGGACGTGGAGGACCATTTATGAGATGGG  
GGAGGAGCTGGGCAGCGGCCAGTTTGCGATCGTGCGGAAGTGCCGGCAGAAGGGCACGGGCAAGGAGTAC  
GCAGCCAAGTTCATCAAGAAGCGCCGCCGTGTATCCAGCCGGCGTGGGGTGAGCCGGGAGGAGATCGAGC  
GGGAGGTGAACATCTCGCGGAGATCCGGCACCCCAACATCATCACCTGCACGACATCTTCGAGAACAA  
GACGGACGTGGTCTCATCTGGAGCTGGTCTCTGGCGGGGAGCTCTTTGACTTCTGGCGGAGAAAGAG  
TCGCTGACGGAGGACGAGGCCACCCAGTTCTCAAGCAGATCCTGGACGGCGTTCCTACCTGCACTCTA  
AGCGCATCGCACACTTTGACCTGAAGCCGGAACATCATGCTGCTGGACAAGAAGCTGCCCAACCCACG  
AATCAAGCTCATCGACTTCGGCATCGCGCACAAAGATCGAGCGGGGAACGAGTTCAAGAACATCTTCGGC  
ACCCCGGAGTTTGTGGCCCCAGAGATTGTGAACATGAGCCGCTGGGCCTGGAGGCGGACATGTGGGCA  
TCGGTGTATCACCTATATCTCTCTGAGCGGTGCATCCCCGTTCTGGGCGAGACCAAGCAGGAGACGCT  
CACCAACATCTCAGCCGTGAACCTACGACTTCGACGAGGAGTACTTCAGCAACACCAGCGAGCTGGCCAAG  
GACTTCATTTCGCCGGCTGCTCGTCAAAGATCCCAAGCGGAGAATGACCATTTGCCAGAGCCTGGAACATT  
CCTGGATTAAAGGCGATCCGGCGGCGGAACGTGCGTGGTGAGGACAGCGGCCGCAAGCCGAGCGGCGGCG  
CCTGAAGACCACGCGTCTGAAGGAGTACACCATCAAGTCGCACTCCAGCTTCCGCCCCAACACAGCTAC  
GCCGACTTCGAGCGCTTCTCCAAGGTGCTGGAGGAGGCGGCGGCCGCGAGGAGGGCCTGCGCGAGCTGC  
AGCGCAGCCGGCGGCTCTGCCACGAGGACGTGGAGGCGCTGGCCGCCATCTACGAGGAGAAGGAGGCCTG  
GTACCGCGAGGAGAGCGACAGCCTGGGCCAGGACCTGCGGAGGCTACGGCAGGAGCTGCTCAAGACCGAG  
GCGCTCAAGCGGCAGGCGCAGGAGGAGGCCAAGGGCGCGCTGCTGGGGACCAGCGGCCTCAAGCGCCGCT  
TCAGCCGCCTGGAGAACCCTACGAGGCGCTGGCCAAGCAAGTAGCCTCCGAGATGCGCTTCGTGCAGGA  
CCTCGTGCGCGCCCTGGAGCAGGAGAAGCTGCAGGGCGTGGAGTGCGGGCTGCGCTAGGCGCAGTGGGGT  
GGGCCAGGCCCCAGGACAGCCGGAGCTCGGCCTGCGGTGGGGGCGCTTCTGTGGACGCTGCGCCTCCCA  
TCGCCCGGGTGCCGTGCTTGTGCCAGCGCCACCAGGCTGGAGGCGGAGTGGGAGGAGCTGGAGCCAGGCC  
CGTAAGTTCGAGGAGGAGGGTGGGTGTGGGACGGGGCTGCTTCTCTACACAGCCTCTACGCTGGCCTTCA  
CCTTACCCCTGCATCGTGGTGACCTGGGACCTCCAGGAGCGTGGCCTGTGGCACCCTGAGGGTTG  
GGACCCACCGAGCGCAGAGGCGGCCGAATGCAGCCCTGGTTTCAGGCCCGGAGGAGGGTTTGGGGTAG  
TTGCACGGACAATTCGGCGGGGTGCTGCCTGTTGCTGCCATTAGCCAGGAGGAGGTGCTGGGACGGGGA  
GGGTGGGATGGACGGCGGACAGGCAGTCCCCACGCTGCTGGGTGGCGCCGGGCTTGGTGGGGTCTTCCAC  
TGTGTGCCCTTCTCGCCGAGGCGGCTCCCCGGGTGTGGGGTGCCCTGCTGCGGACTCCTCCGCGAGCCC  
CATCGTCGCGCCTGTGGACGCCTAGGCAAGAGCGGCCCTCTGCAGCCAAGAGAAATAAAATACTGGCTTC  
CAGAT

>gi|2911156|dbj|BAA24955.1| ZIP-kinase [Homo sapiens] (SEQ ID NO:36)  
MSTFRQEDVEDHYEMGEELGSGQFAIVRKCRQKTGKEYAAKFIKKRRLSSSRGVSREEIEREVNIRE  
IRHPNIIITLHDI FENKTDVVLILELVSGGELFDFLAEKESL TEDEATQFLKQILDGVHYLHSKRIAHFDL  
KPENIMLLDKNVPNPRIKLIDFGIAHKIEAGNEFKNIFGTPEFVAPEIVNYEPLGLEADMWSIGVITYIL  
LSGASPFLETGKETLTNISAVNYDFDEEYFSNTSELAKDFIRRLLVKDPKRRMTIAQSLEHSWIKAIRR  
RNVRGEDSGRKPERRRLKTTRLKEYTIKSHSSLPPNNSYADFERFSKVLEEAEEGLRELQRSRLCH  
EDVEALAAIYEEKEAWYREESDSLQDLRRLRQELLKTEALKRQAQEEAKGALLGTSGLKRRFSRLNRY  
EALAKQVASEMRVQDLVRALEQEKLGVECGLR

>gi|5162883|dbj|AB022341.1| Homo sapiens mRNA for ZIP kinase, complete cds  
(SEQ ID NO:37)

GCACCTTTCCCTGGAGTGGGAAGCTGCTGGAAGGCGGACCGGCCCATGTCCACGTTTCAGGCAGGAGGACG  
TGGAGGACCATTATGAGATGGGGGAGGAGCTGGGCAGCGGCCAGTTTTCGATCGTGCGGAAGTGCCGGCA  
GAAGGGCACGGGCAAGGAGTACGCAGCCAAGTTTCATCAAGAAGCGCCGCTGTCCATCCAGCCGGCGTGGG  
GTGAGCCGGGAGGAGATCGAGCGGGAGGTGAACATCCTGCGGGAGATCCGGCACCCCAACATCATCACCC  
TGCACGACATCTTCGAGAACAAGACGGACGTGGTCTCATCTGGAGCTGGTCTCTGGCGGGGAGCTCTT  
TGACTTCCTGGCGGAGAAGGAGTTCGTGACGGAGGACGAGGCCACCCAGTTCTCAAGCAGATCCTGGAC  
GGCGTTCACTACCTGCACTCTAAGCGCATCGCACACTTTGACCTGAAGCCGGAACATCATGCTGCTGG  
ACAAGAAGCTGCCCAACCCACGAATCAAGCTCATCGACTTCGGCATCGCGACAAGATCGAGGCGGGGAA  
CGAGTTCAAGAACATCTTCGGCACCCCGAGTTTGTGGCCCCAGAGATTGTGAACATGAGCCGCTGGGC  
CTGGAGGCGGACATGTGGAGCATCGGTGTCATCACCTATATCCTCCTGAGCGGTGCATCCCCGTTTCTGG  
GCGAGACCAAGCAGGAGACGCTCACCAACATCTCAGCCGTGAACCTACGACTTCGACGAGGAGTACTTCAG  
CAACACCAGCGAGCTGGCCAAGGACTTCATTGCGCGGTGCTCGTCAAAGATCCCAAGCGGAGAATGACC  
ATTGCCCAGAGCCTGGAACATTCTGGATTAAAGGCGATCCGGCGGCGGAACGTGCGTGGTGAGGACAGCG  
GCCGCAAGCCCGAGCGGCGGCGCCTGAAGACCACGCGTCTGAAGGAGTACACCATCAAGTCGCACTCCAG  
CTTGCCGCCCAACAACAGCTACGCCGACTTCGAGCGCTTCTCCAAGGTGCTGGAGGAGGCGGCGGCCGCC  
GAGGAGGGCTGCGCGAGCTGCAGCGCAGCGCGGCTGTCACGAGGACGTGGAGGCGCTGGCGGCCCA  
TCTACGAGGAGAAGGAGGCTGTTACCGGAGGAGGAGCAGAGCTGGGCCAGGACCTGGCGGAGGCTGCGGAGGCTACG  
GCAGGAGCTGCTCAAGACCGAGGCGCTCAAGCGGCGAGGCGCAGGAGGAGGCCAAGGGCGCGCTGCTGGGG  
ACCAGCGGCCTCAAGCGCGCTTCAGCCGCTGGAGAACCCTACGAGGCGCTGGCCAAGCAAGTAGCCT  
CCGAGATGCGCTTCGTGCAGGACCTCGTGCGCGCCTGGAGCAGGAGAAGCTGCAGGGCGTGGAGTGCGG  
GCTGCGCTAGGCGCAGTGGGGTGGGCCAGGCCCCAGGACAGCCGAGCTCGGCCTGCGGTGGGGGCGCTT  
CCTGTGGACGCTGCGCCTCCCATCGCCCGGGTGCCTGTCTTGGCCAGCGCCACCAGGCTGGAGGCGGAG  
TGGGAGGAGCTGGAGCCAGGCCCCGTAAGTTCGAGGCGAGGGGTGGGTGTGGGACGGGGCTGCTTCTCTAC  
ACATCTCCACGCTGGCCTTCACCTTCACCCCTGCATCGTTCGGTGACCTGGGACCTCCAGGCAGCGTG  
GCCTGTGGCACCGTGAGGGTTGGGACCCACCGAGGCGCAGAGGCGGCCGAATGCAGCCCTGGTTTCAGGC  
CCGGAGGAGGGTTTTCGGGTAGTTGCACGGACAATTCGGCGGGGTGCTGCCTGTTGCTGCCATTAGCCCA  
GGAGGAGGTGCTGGGACGGGGAGGGTGGGATGGACGGCGGACAGGCAGTCCCCACGCTGCTGGGTGGCGC  
CGGGCTTGGTGGGGTCTTCCACTGTGTGCCCTTCTCGCCGAGGCGGGTCCCCCGGGTGTGGGGTGGCCCTG  
CTGCGGACTCCTCCGCGAGCCCATCGTTCGCGCCTGTGGACGCTAGGCAAGAGCGGCCCTCTGCAGCCA  
AGAGAAATAAAATACTGGCTTCCAG

>gi|5162884|dbj|BAA81746.1| ZIP kinase [Homo sapiens] (SEQ ID NO:38)  
MSTFRQEDVEDHYEMGEELGSGQFAIVRKRQKGTGKEYAAKFIKRRLSSRRRVSREEIEREVNILE  
IRHPNIIITLHDI FENKTDVVLILELVSGGELFDFLAEKESLDEATQFLKQILDGVHYLHKSRIAHFDL  
KPENIMLLDKNVPNPRIKLIDFGIAHKIEAGNEFKNIFGTPEFVAPEIVNYEPLGLEADMWSIGVITYIL  
LSGASPFLETGKETLTNISAVNYDFDEEYFSNTSELAKDFIRLLLVKDPKRRMTIAQSLEHSWIKAIRR  
RNVREGDSGRKPERRRLKTTTLKEYTIKSHSSLPPNNSYADFERFSKVLEEAEEGLRELQSRRLCH  
EDVEALAAIYEEKEAWYREESDSLQDLRLRLQELLKTEALKRQAQEEAKGALLGTSGLKRRFSRLNRY  
EALAKQVASEMRFVQDLVRALEQEKLGVECLR

Gas6

GH1-50-PCR-G3F1 (SEQ ID NO:39)  
GCGCAGGAATCTGGTTCATCAAGGTCAACAGGGATGCTGTTCATGAAAATCGCGGTGGCCGGGGGACTTGTTCCAACCGG  
AGCGAGGACTGTATCATCTGAACCTTACCGTGGGAGGTATTCCCTTCCATGAGAAGGACTACGTGCAGCTATAAAAC  
CTCGTCTGGATGCTGCACTGAAGAGCGCGCAGAAACCAACAC

>gi|4557616|ref|NM\_000820.1| Homo sapiens growth arrest-specific 6 (GAS6),  
mRNA (SEQ ID NO:40)  
CCGACGCGCGCGCGCGCGCGCGCGCGCGATGTGACCTTCAGGGCCGCCAGGACGGGATGACCGGAGCCT  
CCGCCCCGCGCGCGCGCGCTCGCCTCGGCCTCCCGGGCGCTCTGACCGCGCGTCCCCGGCCCGCCATGGCC  
CCTTCGCTCTCGCCCGGGCCCGCGCCCTGCGCCGCGCGCGCAGCTGCTGCTGCTGCTGCTGGCCGCGG

AGTGC GCGCTTGCCGCGCTGTTGCCGGCGCGCGAGGCCACGCAGTTCTGCGGCCAGGCAGCGCCGCGC  
CTTTTCAGGTCTTCGAGGAGGCCAAGCAGGGCCACCTGGAGAGGGAGTGCGTGAGGAGCTGTGCAGCCGC  
GAGGAGGCGCGGGAGGTGTTGAGAACGACCCCGAGACGGATTATTTTTTACCCAAGATACTTAGACTGCA  
TCAACAAGTATGGGTCTCCGTACACCAAAAACTCAGGCTTCGCCACCTGCGTGCAAAACCTGCCTGACCA  
GTGCACGCCCCAACCCCTGCGATAGGAAGGGGACCCAAGCCTGCCAGGACCTCATGGGCAACTTCTTCTGC  
CTGTGTAAAGCTGGCTGGGGGGGCGGCTCTGCGACAAAGATGTCAACGAATGCAGCCAGGAGAACGGGG  
GCTGCCTCCAGATCTGCCACAACAAGCCGGGTAGCTTCCACTGTTCTGCGACAGCGGCTTCGAGCTCTC  
CTCTGATGGCAGGACCTGCCAAGACATAGACGAGTGCGCAGACTCGGAGGCTGCGGGGAGGCGCGCTGC  
AAGAACCTGCCCCGCTCCTACTCCTGCCTCTGTGACGAGGGCTTTGCGTACAGCTCCCAGGAGAAGGCTT  
GCCGAGATGTGGACGAGTGTCTGCAGGGCCGCTGTGAGCAGGTCTGCGTGAACCTCCCCAGGGAGCTACAC  
CTGCCACTGTGACGGGCGTGGGGGCTCAAGCTGTCCCAGGACATGGACACCTGTGAGGACATCTTGCCG  
TGCGTGCCCTTCAGCGTGGCCAAGAGTGTGAAGTCTTGTACCTGGGCGGATGTTCAAGTGGGACCCCCG  
TGATCCGACTGCGCTTCAAGAGGCTGCAGCCCACAGGCTGGTAGCTGAGTTTGAAGTTCGGACCTTTGA  
CCCCGAGGGCATCTCCTCTTTGCCGGAGGCCACAGGACAGCACCTGGATCGTGCTGGCCCTGAGAGCC  
GGCCGGCTGGAGCTGCAGCTGCGCTACAACGGTGTGCGCCGTGTCAACAGCAGCGGCCCCGGTCAACCC  
ATGGCATGTGGCAGACAATCTCTGTTGAGGAGCTGGCGCGGAATCTGGTCAACAGGTCAACAGGGATGC  
TGTGATGAAATCGCGGTGGCCGGGACTTGTTCACCGGAGCGAGGACTGTATCATCTGAACCTGACC  
GTGGGAGGTATTCCCTTCCATGAGAAGGACCTCGTGACGCTATAAACCTCGTCTGGATGGCTGCATGA  
GGAGCTGGAACCTGGCTGAACGGAGAAGACACCACCATCCAGGAAACGGTGAAGTGAACACGAGGATGCA  
GTGCTTCTCGGTGACGGAGAGAGGCTCTTTCTACCCCGGGAGCGGCTTCGCTTCTACAGCCTGGACTAC  
ATGCGGACCCCTCTGGACGTGCGGACTGAATCAACCTGGGAAGTAGAAGTCTGGCTCACATCCGCCCAG  
CCGCAGACACAGGCGTGTCTTTGCGCTCTGGGCCCCGACCTCCGTGCGGTGCCTCTCTCTGTGGCACT  
GGTAGACTATCACTCCACGAAGAACTCAAGAAGCAGCTGGTGGTCTGGCGTGGAGCATAACGGCCTTG  
GCCCTAATGGAGATCAAGGTCTGCGACGGCCAAGAGCACGTGGTCAACGTCTCGCTGAGGGACGGTGAGG  
CCACCCTGGAGGTGGACGGCACCAGGGGCCAGAGCGAGGTGAGCGCCGCGCAGCTGCAGGAGAGGCTGGC  
CGTGCTCGAGAGGCACCTGCGGAGCCCCGTGCTCACCTTTGCTGGCGGCTGCCAGATGTGCCGGTGACT  
TCAGCGCCAGTACCGCGTTCTACCGCGGCTGCATGACACTGGAGGTCAACCGGAGGCTGCTGGACCTGG  
ACGAGGCGGCGTACAAGCACAGCGACATCACGGCCCCACTCCTGCCCCCGGTGGAGCCCGCCGAGCCTA  
GGCCCCACGGGACGCGGCAGGCTTCTCAGTCTCTGTCCGAGACAGCCGGGAGGAGCTGGGGGCTCCTC  
ACCACGTGGGGCCATGCTGAGAGCTGGGCTTCTCTGTGACCATCCCGGCTGTAAATATCTGTAAAT  
AGTGAGATGGACTTGGGGCTCTGACGCCGCGCACTCAGCCGTGGGCCCCGGGCGGGGAGGCCGGCGCA  
GCGCAGAGCGGCTCGAAGAAAATAATTCTCTATTATTTTATTACCAAGCGCTTCTTCTGACTCTAAA  
ATATGGAAAAT

>gi|4557617|ref|NP\_000811.1| growth arrest-specific 6; AXL stimulatory factor  
[Homo sapiens] (SEQ ID NO:41)

MAPSLSPGPAALRRAPQLLLLLLLAAECALALLPAREATQFLRPRQRRAFQVFEEAKQGHLEECVEELC  
SREEAREVFENDPETDYFYPRYLDCKINKYGSPTKNSGFATCVQNLDPDQCTPNPCDRKGTQACQDLMGNF  
FCLCKAGWGGRLCDKDVNECSQENGGCLQICHNKPGSFHCSCHSGFELSSDGRTCDIDECADSEACGEA  
RCKNLPGSYSCLCDEGFAYSSQEKACRDVDECLQGRCEQVCVNSPGSYTCHCDGRGGLKLSQDMDTCEDI  
LPCVPFSAKSVKSLYLGRMFSGTPVIRLRFKRLQPTLVAEFDFTFDPEGILLFAGGHQDSTWIVLAL  
RAGRLELQLRYNGVGRVTSSGPVINHGMWQTI SVEELARNLVIKVNRAVMKIAVAGDLFQPERGLYHLN  
LTVGGIPFHEKDLVQPINRLDGCMSWNWLNGETTTIQTETVKVNTRMQCFVTERGSFYPGSGFAFYSL  
DYMRTPLDVGTSTWEVEVVAHIRPAADTGVLFWALWAPDLRAVPLSVALVDYHSTKKLKKQLVVLAVEHT  
ALALMEIKVCDGQEHVVTVSLRDGEATLEVDGTRGQSEVSAAQLQERLAVLERHLRSPVLTFAAGGLPDVP  
VTSAPVTAIFYRGCMTELVNRLLDLDEAAYKHS DITAHSCPPVEPAAA

SRm160

GH1-67-PCR-G3F1 (SEQ ID NO:42)

GGTTCTCTCCTCGTCTTCTCTCCCTTCCCTTCTAAGCCTGGCCCTCAGGCCTTGCCCAAACCTGCAAGCCCCA  
AGAAGCCACCCCTTGCAGCGGAGGTCCGCAGCCCCGGAAGCCAATAACTCCCTCAGGGGACTCTCGGTCCCTCAG

CTACTCGCCTGTGGAGCGTCGCCGTCCCTCGCCCCAGCCCTCACCACGGGACCAGCAGAGCAGCAGCAGTGTAGCGGG  
GTTCCCGGAGAGGCCAGCGTGGGGACAGCCGCTCCCCAGCCACAAGCGCAGAGGAGACACCTAGCCCTCGGCCATG  
AGACACCGCTCCTCCAGGTCTCCATAAATTGTCTTTGGGGGATTNCACCACACCCATGCTCTTGAGCCACAAGGAGT  
GTTCTTTCTTCCCCAGCAGAACCGTGAAGGTCTTGTCTGCGTCTCCTTTTAACCTTNGCAGCCTTTGATTGGAG  
GGGCGTCCCCTTTTTCCCTCCCCCTTTTTTAG

>gi|19923465|ref|NM\_016333.2| Homo sapiens serine/arginine repetitive matrix  
2 (SRRM2), mRNA (SEQ ID NO:43)

GCGGCCCAGGCGGGGTGCGAGTGGCGCAGTCGGAGCCCCTTGCGGCCCTGAGGAAGCGAGGAGGCGTTCG  
GCGTCGGCTGAGGCGGGCGGACCGGCGAGGCGAGGCGGGCGGCCCCAGGCCCGAGGGACTCGGGAGCTCGA  
GCAGCGGCGGGCGGAAGACCTCTCCCCCTCGGAGGCGGGCGGGCGGAGGCGGGGAGCGGTGGTGGCCCC  
CCCGGGCACGGGGCCATGTACAACGGGATCGGGCTGCCGACGCCCCGGGGCAGCGGCACCAACGGCTACG  
TCCAGCGCAACCTGTCCCTGGTGGCGGGGCGCGGGGTGAGCGGCCTGACTACAAGGGAGAGGAGGA  
GCGGCGCCTGGAGGCTGCCCTGGTGAAGCGGCCTAATCCTGACATCCTGGACCACGAGCGCAAGCGGCGC  
GTCGAGCTGCGATGCCTCGAGCTGGAGGAGATGATGGAAGAGCAGGGGTACGAGGAACAGCAAATTCAGG  
AAAAAGTGGCGACCTTTCGACTCATGTTGCTGGAGAAGGATGTGAACCTGGGGGCAAGGAGGAGACCCC  
AGGGCAGAGGCGAGCGGTACGGGAGACTCACCAGTTGGCAGAATTAAATGAGAAGAAGATGAAAGACTC  
CGTGCTGCCTTTGGCATCAGTGATTCTTACGTAGATGGCAGCTCTTTTGATCCTCAGCGTCGTGCCCGAG  
AAGCTAAACAACCAGCTCCTGAGCCTCCCAAACCTTACAGCCTTGTTTCGGGAGTCTAGCAGTTCTCGCTC  
ACCAACCCCAAAGCAGAAGAAGAAGAAAAAGAAGATAGAGGACGCAGGTGAGAGAGCAGCTCTCCT  
CGACGGGAGAGAAAGAAAGCTCAAAGAAGAAGACAGGTGAGAATCTGAGTCCAAGAAACGTAAGC  
ATAGGTCTCCCACTCAAAGAGCAAACGTAAATCTAAGGACAAAAAGCGAAAGCGGTCTCGAAGTACAAC  
ACCAGCCCCCAAGAGCCGCCGGGCCACCGTTCAACTTCTGCTGACTCTGCTTCTCCTCCGATACTTCC  
CGCAGTCGGTCTCGAAGTGCTGCAGCTAAACTCATACAACCTGCCTTGGCTGGGCGAAGTCTTCCCCTG  
CTTCAGGGCGACGCGGGGAGGAGATGCGCCTTTAGTGAACCAGGTACTACCAGCACACAACGGCCTAG  
TAGCCCGGAGACTGCTACGAAACAGCCTAGCAGCCCTTATGAAGACAAAGATAAAGACAAGAAGGAGAAA  
TCTGCAACTCGACCTAGCCCCCTCTCCGGAAGGAGCAGCACAGGCCCAGAACCACCTGCTCCCACTCCGC  
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[illegible]

## Non-muscle myosin heavy chain

GH1-90-PCR-G3F1 (SEQ ID NO:47)

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>gi|22507396|ref|NM_002473.2| Homo sapiens myosin, heavy polypeptide 9, non-  
muscle (MYH9), mRNA (SEQ ID NO:48)
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ACCTCGAGAAGGCAAAGCAGACTCTGGAGAACGAGCGGGGGGAGCTGGCCAACGAGGTGAAGGTGCTGCT  
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CTCAAGCAGGTGGAGGACGAGAAGAATTCCTTCCGGGAGCAGCTGGAGGAGGAGGAGGAGGCCAAGCACA  
ACCTGGAGAAGCAGATCGCCACCTCCATGCCAGGTGGCCGACATGAAAAAGAAGATGGAGGACAGTGT  
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CACGAGGAGAAGGTGGCCGCCCTACGACAAGCTGGAGAAGACCAAGACGCGGCTGCAGCAGGAGCTGGACG  
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CCAGCTCTTGGCGGAGGAGAAGACCATCTCTGCCAAGTATGCAGAGGAGCGCGACCGGGCTGAGGCGGAG  
GCCGAGAGAAGGAGACCAAGGCTCTGTGCTGGCCCGGGCCCTGGAGGAAGCCATGGAGCAGAAGGCGG  
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>gi|12667788|ref|NP\_002464.1| myosin, heavy polypeptide 9, non-muscle [Homo sapiens] (SEQ ID NO:49)

MAQQAADKYLVDKNFINNPLAQADWAAKKLWVPSDKSGFEPASLKEEVGEEAIVELVENGKKVKVNKD  
DIQKMNPPKFSKVEDMAELTCLNEASVLHNLKERYYSGLIYTYSGLFCVVINPYKNLPIYSEEIVEMYKG  
KKRHEMPPIYAITDTAYRSMQDREDQSILCTGESGAGKTENTKKVIQYLAYVASSHKSKKDQGELERQ  
LLQANPILEAFGNAKTVKNDNSSRFGKFIIRINFVNGYIVGANIETYLEKSRAIRQAKEERTFHFYYL  
LSGAGEHLKTDLLLEPYNKYRFLSNGHVTIPGQQDKDMFQETMEAMRIMGIPEEEQMGLLRVISGVLQLG  
NIVFKKERNTDQASMPDNATAQKVSHLLGINVDFTRGILTPIKVG RDYVQKAQTKEQADFAIEALAKA  
TYERMFRLVLRINKALDKTKRQGASFIGILDIAFGFEIFDLNSFEQLCINYTNEKLQQLFNHTMFILEQE  
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ALPGAFKTRKGMFRTVGGQLYKEQLAKLMATLRNTNPNFVRCIIPNHEKKAGKLDPHLVLDQLRCNGVLEG  
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RLKKANLQIDQINTDLNLSHAQKNENARQQLERQNKELKVKLQEMEGTVKSKYKASITALEAKIAQLE  
EQLDNETKERQAACKQVRRTEKKLKDVLQVDDERRNAEQYKDQADKASTRLKQLKRQLEEAEEEAQRAN  
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Calmodulin 2

GH1-84-PCR-G3F1 (SEQ ID NO:50)

GCTGTCTGTAAATACCTGGTGC TAACATCCCATGCCGCTCCCTCCTCACGATGCACCCACCGCCCTGAGGGCCCGTC  
CTAGGAATGGATGTGGGGATGGTTCGCTTTGTAATGTGCTGGTTCTCTTTTTTTTTCTTTCCCTCTTTGGCCCTTAA  
GAC'TTTCATTTTGTTCAGAACCATGCTGGGCTAGCTAAAGGGTGGGGAGAGGGAAGATGGGCCCCACCACGCTCTCA  
AGAGAACGCACCTGCAATAAAACAGTCTTGTGCGCCAGCTGCCAGGGGACGGCAG

>gi|13477324|gb|BC005137.1|BC005137 Homo sapiens, calmodulin 2 (phosphorylase  
kinase, delta), clone MGC:1447 IMAGE:3504793, mRNA, complete cds (SEQ ID  
NO:51)

GGCAGCAGGGGCGCGCGGAGCTGGAAC'TGCTGCAGCTGCTGCCGCCGCCGGAGGAACCTTGATCCCCGTG  
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>gi|13477325|gb|AAH05137.1|AAH05137 calmodulin 2 (phosphorylase kinase, delta) [Homo sapiens] (SEQ ID NO:52)  
MADQLTEEQIAEFKEAFSLFDKDGDTITTKELGTVMRSLGQNPTEAELQDMINEVDADGNGTIDFPEFL  
TMMARKMKDITDSEEEIREAFRVFDKDGNGYISAAELRHVMTNLGEKLTDEEVDEMIREADIDGDGQVNYE  
EFVQMMTAK

Novel Symporter

GH1-178-PCR-G3F1 (SEQ ID NO:53)  
CTGGGTTCTTGCGAGACTTGGCTGGAGATCACGATGATGCCCTCACTGTCCTCAGTGAAACTCAAACTCCATCACA  
GAGCCATCTCCAATGCTCAAGTAGCGGCCCTTCCCTGCCAGGCCCGGCCGGGCGACCCGAGTGGGCGATCGCGGAGC  
AGGTCGGGGCCAGAGGCCGCCTCCCTTCCGGAGGCTCTCACCTGCCACAGCCACCGCTGCACCGCAGGAACCCAGCA  
CAGTGGTTAGATTGATAAGCGGCCGCTCGACTAGTCTGAGGTCTGATACTCACTGACTGTCGTAT

Novel Semaphorin

GH1-204-PCR-G3F1 (SEQ ID NO:54)  
AAAAAATCTACTTCTAAGCTTGTCTTATTGTTGGCAGAATTCAGGTCCTTGTGGCTGTAGGACCGAGGCCCCAGCT  
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CTCGCGCCGCCCTCAGCAGCCGGCGGGCGGCCGAGGTAGACGAGCGGGGACGGAAGGACAGACCGACGTCGCCAGCTG  
GAATCATGTGAGGGCCAACCGGGGAAGGTGGAGCAGATGAGCACACACAGGAGCCGTCTCCTCACCGCCGCCCTCT  
CAGCATGGAACAGAGGCGCCCTGGCCCCGGGCCCTGGAGGTGGACAGCCGCTCTGTGGTCTGCT

Novel Zn finger helicase

GH1-31-PCR-G3F1 (SEQ ID NO:55)  
GAAGGAGAAGATGGTATAAACTGGTCCATCAGTGACAAAGACATTGAGGCCAGATAGCTAATAACCGAACACCTGG  
AAGATGGACCCAGCGGGTACTATTTCAGCACAAAAACATTTCTGTGAAATTGTGACAAACGTGGTCATTTATCAAAA  
AACTGCCCTTACCACGAAAAGTTCGTCGCTGCTTCCCTGTGCTCCAGGAGAGGACATCTCCTGTATTCTGTTTACG  
CCCCCTTTGCGAATACTGTCTGTGCCTAATGTTTGACCACTCATGTCTTTTCAGACATTCTGATATAACAGTGTG  
ACCGATGTCATATTGCTAGGCACTATACAGATTCTTGCCAGAAATCTTGAGGCAGTTATCACCTTACGACAACTTG  
ACCACCCCAAAGCCGAAAACCTTTCCGCAAAAACCCGCACAGTGGTTTGATTGATTAAAGGCGGCGCTCGACTAGTCT  
GAGGTCTGATACTCACTGAC

Novel Sugar transporter

GH1-175-PCR-G3F1 (SEQ ID NO:56)  
ACCGAGCCAGAGAATGTCACCAATGGCACAGTGGGCGGCACAGCAGAGCCGGGGCAGGAGGTGAGCTGGATGAA  
CGGCTGGCTCAGCTGCCAGGCCAGGACGAGATGCTAAATTTGGCCTTCACTGTGGGCTCCTTTCTGCTCAGTGCCA  
TCACCCTGCCCCTGGGTATCGTCATGGACAAGTATGGCCCCAGGAAGCTCAGGCTGCTGGGCAGCGCCTGCTTCGCG  
GTTTCCTGCTTGCTGATTGCGT

human Plexin-A2 (SEQ ID NO:57)

gctgccggga ggagcggcat ccgcgccaga ctggagcggg agggcggcgg agggcagttg  
ctgggaattt ttcagccgag agggcgagcg atccggagag agaccccgag agcttgggag  
cggtagggcg tgcgagcgcc gcagccagcg gagcaaacct cgaaatagat ctggaaagcc  
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ggaggtacaa ggaaacgggc agcagcacgt ggagaaggcc ctgaagctct ttgcccagct  
catcaacaac aaggtgttcc tgetgacctt catccgcacc ctggagctgc agcgagttt  
ctccatgcgc gaccggggca acgtggcttc gctcatcatg accggcctgc agggccgct  
ggaatatgcc actgatgtcc tcaagcagct gctctctgac ctcatcgata agaacctgga  
gaacaagaac caccccaagc tgetactccg gaggacagag tctgtggctg aaaagatgct  
gaccaattgg ttgccttcc tccctgcaca gttcctaaag gagtgcgcag gggagccact  
cttcatgcta tactgtgcca tcaagcagca gatggagaag ggccccattg atgccatcac  
gggagaggcc cgctactccc tgagcgagga caagctcatc cggcagcaga tccagtgaa  
gacctgatc ctgaactgcg tcaacctga caacgagaac agtccagaga tcccagtgaa  
ggtgttaaac tgtgacacca tcacacaggt caaggagaag attcttgatg ccgtgtataa  
gaatgtgccc tattcccagc ggcgagggc agtgagacat gacttgaggt ggcgccaagg  
ccgatcgcc cgggtcgtgc tgcaagatga ggacatcacc accaagattg aggggtgactg  
gaagcggctc aacacactga tgcattatca ggtgtcagac aggtcgggtg tggctctggt  
ccccaaacag acctcctcct acaacatccc tgcctctgcc agcatctccc ggacgtccat  
cagcagatag ggtgactcct ccttcaggta tacgggcagc cccgacagcc tgcgggtccg  
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tgatttctca gatgagcagg cagacaggca cagcatccat gacacagatg tgcggcacac  
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cgtgtttgac atccacaagg gcagcatcac ggacgcctgc ctctctgtgg tggcccagac  
cttcatggac tcttgttcaa cgtcagagca ccggctgggc aaggactccc cctccaacaa  
gctgctctat gccaaaggaca tccccagcta caagagctgg gtggagagat actacgcaga  
catcgccaag ctcccagcca tcagtgaaca ggacatgaat gcctacctcg ccgagcagtc  
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ggagcctcgc attcctggga agagggacct gtccaagctg tcacactggg agtctcagat  
ggaaggacaa gtgatgggga tcaggcccca gagcttctg tccctgaga ccccatcctg

gggagagggg aggactcctc tccctacgcc agccaagttt cgtcatagcc agttccagct  
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gaagtggtt cttcaagccg agaggcacga gctggggaca gttctgcctc tgtgactgct  
gctttgcatg aaaactcatt tgatgtatat tggggaaata atgagaactt tatttaattt  
ttttaagaaa aagggaaaaa aacagaaata aaacaaaaag ccgccctgtt aatcccgtcc  
aacttttgtt taattctgat ttctgtctcc cttccatctt ttctccatt cctccttctt  
tatataatgc ctattttccaa atgccagaga aagcagagat gctgagagac attggagaga  
aaatgactgt ctccttttcc ttgaaattaa aaaaaaaaaa aaaaagagaa agaggagaag  
aagaatgatg agcacaagta tgcaccaaac acttcgcaa aacagaggcc agtaaacct  
ggaattatcc cggcagccag aggagtatgg aacttcaga actttgcaca aattgcaaag  
ccatcaagag ctaccctgg ctgactggaa actgagcttt atctaccaca cacctgtata  
ttctcatctt ttgagaggag atgtgtacct agatagtacc aatgcttttt gctactgttt  
tttgttttgt tttatttaat cctaaacctc aacaaatgag gagctggctt ttgatatgtt  
tdctttcaat ttccctaaag ttactatgag aagtggggtg aggtgggcct ctcccagacc  
agacacctgg cagccctgcc tcatatcaat ccctgtcata aaccaggcac cctggggaaa  
cggcctggag gtgtgtgggc caggcctcca cgaggttcca tttgaaagtt gatttgagaga  
cataggtgtt tgactttgga gttcactcca atcatccagt ggtccctggc aatt

human Plexin-A2 (SEQ ID NO:58)

MEQRRPWPRALEVDSRSVLLSVVWVLLAPPAAGMPQFSTFHSENRDWTFNHLTVHQGTGAVYVGAINRVYKLTGNL  
TIQVAHKTPPEEDNKSCYPPLIVQPCSEVLTLTNNVNKLLIIDYSENRLACGSLYQGCVCKLLRLDDLFILVEPSHK  
KEHYLSSVNKTGTMGVIVRSEGEDGKLFITGAVDGKQDYFPTLSSRKLPDPRESSAMLDYELHSDVSSLIKIPSD  
TLALVSHFDIFYIYGFGGFFVFLTVQPETPEGVAINSAGDLFYTSRIVRLCKDDPKFHSYVSLPFGCTRAGVEYR  
LLQAAYLAKPGDSLAAFNITSQDDVLFAlFSKGQKQYHHPDDLSALCAFPPIRAINLQIKERLQSCYQEGNLELNW  
LLGKDVQCTKAPVPIIDNFCGLDINQPLGGSTPVEGLTLYTTSRDRMTSVASYVYNGYSVVFVGTSGKGLKKIRADG  
PPHGGVQYEMVSVLKDGSPILRDMAFSIDQRYLYMSESRQVTRVPVESCEQYTTCEGLSSGDPHCWCALHNMCSR  
RDKCQQAWEPNRFAASISQCVSLAVHPSSISVSEHSRLSLVSDAPDLSAGIACAFGNLTEVEGQVSGSQVICISP  
GPKDVPVPIPLDQDFGLQLRSKETGKIFVSTEFKFNCSAHQLCLSCVNSAFRCHWCKYRNLCTHDPTTCSFQEG  
RINISEDQPQLVPTTEILIPVGEVKPITLKARNLPQPSGQRYECVLNIQGAHRVPALRFNSSSVQCQNSSYQYD  
GMDISNLAVDFAVVWNGNFIIDNPQDLKVHLYKCAAQRESCGLCLKADRFECGWCSGERRCTLHQHCTSPSSPWLD  
WSSHNVKCSNPQITEILT VSGPPEGTRVTIHGVNLGLDFSEIAHHVQVAGVPCTPLPGEYIIAEQIVCEMGHALVG  
TTSGPVRLCIGECKPEFMTKSHQQYT FVNPSVLSLNPIRGPESGGTMVTITGHYLGAGSSVAVYLGNTCEFYGRSM  
SEIVCVSPSSNGLGPVPVSVDRAHVDSNLQFEYIDDPVQRIEPEWSIASGHTPLTITGFNLVDVIEPRIRVKF  
NGKESVNVCKVVNTTTLTCLAPSLTIDYRPLDTPVERPDEFGFVFNNVQSLLIYNDTKFIYYPNPTFELLSPTGLVD  
QKPGSPIILKGKNCPPASGGAKLNYTVLIGETPCAVTVSETQLLCEPPNLTGQHKVMVHVGMVFSVSGSVSIDS  
LLTLPAlVSIAGGSLLLIIVIIVLIAYKRKSRENDLT LKRLQMOMDNLESRALECKEAFELQTDINELTSDLDR  
SGIPYLDYRTYAMRVLPFGIEDHPVLELEVQNGGQHVKEALKLFAQLINNKVFLLTFTIRLELQSFMSMRDRGNV  
ASLIMTGLQGRLEYATDVLKQLLSDLIDKNLENKNHPKLLLRRTESVAEKMLTNWFAFLHKLKECAGEPLFMYLC  
AIKQQMEKGPIDAITGEARYSLSEDKLIRQQIEYKTLILNCVNPDNENSPEIPVKVLNCDTITQVKEKILDVYKNV  
PYSQRPRAVDMDLEWRQGRIARVVLQDEDITTKIEGDWKRNLTMHYQVSDRSVVALVPKQTSSYNIPASASISRTS  
ISRYGDSSFRYTGPSDLRSRAPMITPDLESGVKVWHLVKNHDHGDQKEGDRGSKMVSEIYLTRLLATKGT LQKFVD  
DLFETLFSTVHRGSALPLAIKYMFDLDEQADRHSIHDTDVRHTWKSNCPLRFVWNVKPNQFVFDIHKGSITDAC  
LSVVAQTFMDSCTSEHRLGKDSPSNKLKYAKDIPSYKSWVERYADIAPKPAISDQDMNAYLAEQSRLHAVEFNML  
SALNEIYSYVSKYSEELIGALEQDEQARRQLAYKVEQLINAMSI

human deoxycytidylate deaminase (SEQ ID NO:59)

atgagtgaag tttcctgcaa gaaacgggac gactatttgg aatggccaga gtattttatg  
gctgtggcct tcttatcagc acagagaagc aaagatccaa attcccaggt cggcgccctgc  
atcgtgaatt cagaaaacaa gattgtcggg attgggtaca atgggatgcc aaatgggtgc  
agtgatgacg tggtgccttg gagaaggaca gcagagaata agctggacac caaataccgg  
tacgtgtgcc atgcggagct gaatgccatc atgaacaaaa attcgaccga tgtgaaaggc

tgtagtatgt atgtcgcctt gttcccttgt aatgaatgcg ctaagctcat catccaggca  
ggtataaaaag aagtgatttt cacgtctgat aaataccatg atagtgcga ggcaactgct  
gcgaggctcc tgtttaatat ggccgggggtg acattccgga aattcatacc gaagtgcagc  
aagattgtca ttgactttga ttcaattaac agcagaccga gtcaaaagct tcagtgaagt  
acatctcatt caatctccag aagattggga ttatcgtctt ctaagagggt gctaatgcct  
ttcatcttga agttacacat aacttcttac tagccagtat ggcaaaagta ggcatactaa  
gaatataaag cctcaaactt tccttactgt ctctcttgtc acatggaatc tacatgtggt  
tgaactattg ctttaggatt taaaataggg gagcctgtgg tggcctgggtg cacagggtca  
gaacgagagt gcctcccctt cttgtgtcct ggctggctgg gatgctgggtg gctcttcaga  
ggagcatcag ctgtctgtca tctgtctgca tccggcagcc tctcttcaact gctacatgtg  
ctggaaggac aaataaataa ttgtggttgt gttcttaatg gggacgagca gacacactga  
tctgaacatc tggcccaagt gaagcatggc ataatagtgc cttggaagaa aattaggcct  
caaagtacag tagcattgaa gtgtttgctg cagagttgag ggaaaccccc agccaccctc  
ccggaatccg agatagggtg gcacatctgt cctgacagac gaggagtgtg actgaaccag  
gaatatttcc tccattcctg ctctcccact gcacacaggg tgggtggcaca ttatccctct  
gggggggtggg gacgcctggt gttttggctc aatttgggtt tgttgggtcac atggagctct  
tccatttcgt ttagctgaat aatgagttgt tcctagagga gacagcctgt ctctccttgt  
tgcccccaaa gcccatgccc tgccgtgggtg gcagctgggg ctgtggatgg gaggggtccc  
caacatggat gtgttgcccc tcctccgcat gccaacgcag ttcattgtaca aggccctct  
gcaactggag agaaaattaa ttcctatccc gtgagtggat tgtgagaaat tccaccacg  
tggagacagc ttactgcagc actgttggtg ttcggagctc ttctgtgccc tggctccatg  
ctttcaccta cacaagcatc accttcctaa tcaccgcggg gcggggagcg tgtggctgtg  
ccccttctct ttaatctcat ttaattttta ttaaaccatgc tcagtacctg tgttgagaaa  
aggctttctt tatcctaaag attattacct ttttaaagtg ctcttatatt ttcattgagt  
tttattttgt ctctgagatt ttgtattcca cattctaggg tattctgtaa tttggctcct  
taccaatatt attaaaatct tattaataatc t

human deoxycytidylate deaminase (SEQ ID NO:60)

MSEVSKKRDDYLEWPEYFMAVAFLSAQRSKDPNSQVGACIVNSENKIVGIGYNGMPNGCSDDVLPWRRRTAENKLD  
T  
KYPYVCHAE LNAIMNKNSTDVKGCSMYVALFPCNECAKLI IQAGIKEVIFTSDKYHDSDEATAARLLFN  
MAGVTFRK  
FIPKCSKIVIDFDSINSRPSQKLQ--

Please insert the accompanying paper copy of the Sequence Listing, page numbers 1-103, at the end of the application.